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An Address

ON THE

GENERAL PRACTITIONER AS A RESEARCH WORKER.

Being the Presidential Address delivered to the Fife Medical Association on Sept. 26th, 1924,

BY J. H. P. PATON, M.B., CH.B. EDIN.,

SECRETARY, ST. ANDREWS INSTITUTE FOR CLINICAL RESEARCH.

[Dr. Paton, referring to the fact that at the present time research into the ætiology of diseases is almost wholly bacteriological, deprecated any impression that studies which could not be corroborated by laboratory investigations were the less trustworthy. The annual wastage from sickness and disability, which in England and Wales alone had been estimated at £150,000,000 per annum, was a problem left practically untouched by systematic research, and it was essentially one on which light could be thrown by the concerted experience of practitioners. Unfortunately it was rare to see articles by general practitioners recording and analysing their clinical experiences or dealing with the commonplaces of everyday practice. Such individual efforts as had been made were sporadic and not coördinated, and had not until recently been assisted financially. The Medical Research Council had, however, instituted grants for a few general practitioners engaged in special researches, and the B.M.A. had offered a prize for similar work. The difficulties in the way of the general practitioner were still enormous. The earning of his livelihood occupied almost every moment of his time, and any leisure that he had from his practice found him eager to get some hard-earned rest or recreation. Should he require laboratory assistance for experimental verification of his views, he had no convenient means at hand and no close association with the laboratory worker. Above all things he lacked the stimulus of working with colleagues for a common cause. The view he wished to put forward was simply that, if means were supplied by which systematic research into the problems of his practice could be continuously carried on by every general practitioner throughout the country, there was every reason to anticipate that benefits as great would accrue to general medicine as had been achieved by concerted research in the case of tropical diseases. Dr. Paton continued :—]

CLINICAL RESEARCH ESSENTIAL.

The research to be undertaken in this field is not mainly laboratory research. It has to do with observations at the bedside, not merely the recording of symptoms, but the study of them, so as to determine the laws that govern their production and the physiological processes that underlie them. Laboratory aid will be constantly required for experimental verification of the results, but the main function of the worker will be exercised at the bedside, and his results will be obtained by true clinical research. It is a common belief, expressed audibly and with great candour in some quarters, that the general practitioner is incapable of carrying out research. There is, at any rate, no systematic attempt made to teach the medical student the principles upon which it should be undertaken, and any scheme for utilising the mass of general practitioners for this object is regarded as impossible and impracticable. The foundation of the St. Andrews Institute for Clinical Research by Sir James Mackenzie was an expression of his conviction that such a view is untrue—that not only is the general practitioner capable of carrying on research, but that he is eager to do so if opportunity be given to him. Sir George Newman, in his last report, acknowledges that research is essential in view of the mass of sickness and disability. He estimates the loss of working time from this cause at 20½ million weeks every year. But as yet he does not appear to realise that this research can only be undertaken by the men in contact with the facts—by the general practitioners of the country—that time and means must be given to them for this purpose and their work coördinated.

THE WORK IN PROGRESS AT ST. ANDREWS.

We have in this Institute, in a small way, the organisation necessary for these objects. The generosity of a few private individuals who understand Sir James Mackenzie's point of view enabled us to establish it and provide for its administration. The Carnegie Trustees gave us a grant to pay the salaries of a chemist and a bacteriologist for a period of five years, now, alas, nearing an end, and the Medical Research Council aided us with a generous grant, the objects of which were to associate with us the professors of anatomy and physiology—to provide the salary of a whole-time physician engaged in the study of infants and children, and to meet some of the necessary expenses in regard to record-keeping and radiography; thus we are equipped not only with clinicians but with the experts necessary for carrying out special investigations.

We have now been at work for five years. Our clinical staff consists of some half dozen persons on part-time duty. I hope to be able to convince you that the experiment has justified itself—at any rate, that it has demonstrated that the idea of the general practitioner devoting some part of his time to research is not only feasible but is capable of producing results of practical value. We had no special qualifications for the task, except that we are general practitioners in daily touch with the problems requiring investigation. Indeed, there were no special qualifications to possess, because the field is a new one. We had to invent our own methods and train ourselves in their use, nor are either the methods or the training as yet by any means complete. As the laboratory worker requires strenuous training to master the technique of existing methods, and as he has constantly to be devising new methods to overçome fresh difficulties, so must the worker in clinical research train himself in known methods and continually devise better ones to supersede them. We have advanced some little way in both of these directions, in formulating a plan of campaign and in training ourselves in the best ways of carrying it out.

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Sir James Mackenzie has aptly expressed it, is the breath of life to medicine. We must be able to say in regard to obscure states of health: "The symptoms indicate the presence or absence of progressive disease," or "The appearance of a new symptom indicates a more serious state of affairs while the disappearance of another indicates betterment." While upon our decision as to whether a symptom is harmful or beneficial, is likely to disappear of itself or to progress to something worse, must depend the whole of intelligent treatment.

It is one of the fundamental axioms laid down by Sir James Mackenzie that the symptoms of use for diagnosis are not, as a rule, those of value for prognosis—an axiom based on the fact that structural changes are only of importance in so far as they disturb those functional activities which affect vital processes. Evidence of interference with function is to be sought for in symptoms rather than physical signs, and, as a rule, in symptoms referable to some other system or organ than the one structurally affected. That this is true in the case of the heart is obvious enough. Enlargement, dilatation, a valvular lesion, &c., give evidence of their danger to life in symptoms due to the deficiency of circulation in other organs—breathlessness, syncope, œdema, &c. What is true of the heart is true of other systems. Disease of the kidneys becomes dangerous to life when their functional efficiency as eliminating organs is impaired. And we know that the danger signals are to be looked for in changes in the heart and blood-vessels, in cerebral disturbances, such as headache or convulsions, and in breathlessness, œdema, &c. To estimate the prognosis, the probable course, the duration, the handicapping quality of a man's illness is not only a more difficult, but in reality a more important duty than to make an accurate diagnosis. But before the prognostic significance of a symptom can be scientifically understood it is essential that the processes underlying it should be known. When this information has been acquired about all symptoms, our understanding of a disease will have become rational and our prognosis will be based upon scientific data. Here lie the basis and fundamental task for clinical research—the acquisition of the knowledge of the mechanism by which symptoms are produced. This must be the aim of all our work, to put symptomatology upon a scientific basis.

The Reflex Hypothesis.

We believe that the first great step in this direction has been taken by our formulation of the reflex hypothesis—viz., that the majority of the symptoms of disease are due to disturbance of normal reflexes, and must be looked upon as disturbed physiological reactions of the body rather than as the properties of disease. No cell exhibits its specific activity except in response to stimuli which arise in the case of unicellular and low organisms in the environment and mobilise the cell by direct action. In the case of the higher organisms, where action at a distance is essential, these direct stimuli are converted by the activity of the receptor cell involved into impulses which are transmitted to the appropriate effector cell by a nervous connexion which we know as a reflex arc. The normal response of the body to the flood of stimuli from its environment is what we call health, and it is represented in consciousness by a sensation of well-being. If the impulses from any receptors be excessive, disordered, or diminished, then the response of the effectors becomes abnormal, the sensation of well-being is lost, and a symptom results. The task of the investigator of symptoms is thus made clear, to trace back the abnormal impulses from the effector to the disturbed receptor in which they originate. This broad conception, once it is realised, does more than this, for it furnishes a rational basis for the classification of symptoms, a basis determined by the nature of the processes involved into two great fundamental divisions—structural and reflex. The structural symptoms are what we know as physical signs. But it is with the reflex symptoms, the functional disturbances with which we as general practitioners have mainly to deal, that this hypothesis is concerned.

I need not tell you that, as general practitioners, our ignorance of reflex arcs and their connexions and habits was abysmal. But here the value of the coöperation of specialists became immediately apparent. Prof. P. T. Herring grasped the significance of the hypothesis, and in a series of addresses to us, afterwards published,[1] discussed and elucidated what was known in regard to reflex processes. In the course of these studies it became evident that there exists little accurate information about the nature and action of receptors. It is obvious, for example, that pain is commonly the result of the application of certain stimuli to the skin, but that on the application of these very stimuli to certain other tissues in the body no pain results, although these tissues can give rise to the most acute pain in certain circumstances. Pain in such cases, then, is not dependent upon the specific nature of the stimulus applied, but upon the nature and activity of the receptors involved. A committee, under the chairmanship of Prof. David Waterston, undertook a study of this question, and the results are being published from time to time.[2] In the course of their investigations there has emerged the fact that sensitive points in the skin vary in their activity. They are sensitive at one time and insensitive at another. Moreover, as one spot becomes insensitive another in the neighbourhood takes up the function. It has been shown by Krogh and others that there are similar variations in the activity of the capillaries of the skin of muscle and of the glomeruli of the kidney. This alternation of rest and activity we named fluctuation, and it became evident that some such property as this must be postulated for all cells—if the continuous action of organs is to be explained—and to account for such phenomena as the graded response of organs and the occurrence of reserve force.

Prof. Herring explained this view in a paper published in *Brain*,[3] which received but scant appreciation at the time. But it is interesting to note that in the Biological Section of the British Association this very property of living cells was placed in the forefront of the programme. I have mentioned these matters to show you the direction in which the theoretical side of the research is heading. But meanwhile much clinical information of practical importance is being accumulated and analysed.

Clinical Investigations.

The feeding of infants and children and the effects upon them of insanitary and disturbed surroundings are being specially studied. Dr. Andrew Rowand has many records in his possession demonstrating the disturbance (or conditioning) of normal reflex processes by environment. Certain ill-nourished infants, brought up in noisy and quarrelsome homes, fail to respond to the most careful regulation of their diet, but improvement at once follows if they are placed in proper and restful surroundings.

Many children suffer from anorexia during school term, though they eat well during the holidays. It needs little stretch of imagination to suppose that the continuous inhibition of gastro-intestinal reflexes which must be present in such cases may lead to a permanent disability and even to structural disease.

The relationships of nasal catarrh to adenoids, of sore throats to the enlargement of tonsils, of "growing pains" to rheumatism, are being illustrated by consecutive series of cases. Special attention is being given to the recurrent ailments of childhood—nasal and bronchial catarrhs, sore throats, cyclic vomiting, &c., and in all cases we attempt to make the record continuous, so that eventually we will have a clear idea of the effects upon the adult of these childish ailments.

Our records of adult patients consist either of cases of obscure ill-health, of cases exhibiting some special symptom in a marked form, or of cases of definite diagnosable disease. The obscure cases of ill-health may be temporary or may be prolonged, leading eventually to one of the diagnosable diseases. We attempt to record in each the points that appear likely to be of value in advancing the knowledge of diagnosis, prognosis, or the mechanism of symptoms, and these points are catalogued for each case so that they may be available for future reference. And here again we insist on continuity of the records so that the ultimate outcome may be apparent.

Attempts are made to unravel the mechanism of a particular symptom by the study of a series of cases exhibiting it. In connexion with the study of pain, for example, Dr. James Orr has collected a number of cases where the symptom appears to be due to deficiency in the supply of blood to muscle, not only cardiac muscle but skeletal muscle as well. He is also specially devoting time to cases bearing on the mechanism involved in the maintenance of blood pressure. All this is bound up, as you can see, with the subject of arteriosclerosis, its causes, onset, advance, and termination, and its effects on the function of the various organs which it attacks.

Exhaustion is being studied by Dr. L. H. Bryson. As a result of his work upon this subject the vital importance of capillary activity, already touched upon in the work on fluctuation, is becoming manifest. Capillaries can no longer be regarded as passive structures meekly accommodating such blood as is delivered to them by the activities of the general circulation. We have seen that they vary in their activity, both in the skin and in glomeruli. And it is becoming clear that so far from the circulation controlling them, it is to a large extent their servant, and it is to meet their demands that cardiac and vasomotor mechanism is mobilised. One of the factors which most potently disturbs the reflex mechanism, whatever it is, which regulates capillary activity, is the occurrence of toxæmia, and in a large series of cases of exhaustion the clinical evidence points both to disturbance of capillary circulation and to the presence of a toxin in the blood.

In addition to such works on the mechanism of symptoms we are endeavouring, as far as we can, to collect records which will demonstrate the truth or falsehood of many traditional beliefs which are widely held—for example, the belief that pleurisy is commonly tuberculous, that hæmoptysis is almost invariably so, that rheumatism is frequently the result of tonsillar disease and is relieved by the removal of these organs, that pain is the characteristic symptom of gastric and duodenal ulcer, and that these conditions can be accurately differentiated by the time of onset of the pain as is taught by Moynihan, that measles predisposes to tuberculous infection. Each of these is at present a pious belief adhered to with great tenacity in some quarters and scoffed at in others, each observer relying on the evidence of records which, though their authors are quite unaware of the fact, are selected records. The tuberculosis expert sees nothing but cases of phthisis. He sees no pleurisy except among those cases, a large proportion of whom give a history of previous pleurisy. What more natural than to conclude that pleurisy is invariably evidence of tuberculous infection? That conclusion may be right or it may be wrong, but the only arbiter must be the general practitioner who sees every case of pleurisy and who can follow each to its ultimate outcome.

CONCLUSION.

I have given you these details of our work here, not because we are particularly proud of them, not because they represent anything epoch-making, but because they show that there is this work to be done and that the general practitioner is capable of doing it, if time and means are provided. I have tried to show you that there is this great undiscovered country to be explored. But it is evident that it is not to be conquered by the efforts of a few pioneers, however eager they may be. A fully organised force must attack it, from a definite base, and after roads have been opened up permitting their entry. I have tried to show you that that force must consist of the general practitioners of this country, with the necessary ancillary services at their disposal to clear the path for them, physiologists, anatomists, bacteriologists, chemists, radiographers, &c., whose expert knowledge will be devoted to the quest in hand. Through the facilities which we possess at this Institute, under the guidance of a great and far-seeing leader, we have been enabled to establish such a base and to drive a little path from it into the wilderness. Sir James Mackenzie can, alas, no longer bear the strain, but his office has been filled by one of his most ardent admirers and disciples, Dr. Maitland Ramsay, under whose leadership we will continue the research.

Gentlemen, to each of you must have come, some time or another, the opportunity, and with it the desire, to investigate some problems in your daily practice, but facilities were wanting and the stimulus of comradeship and a common purpose. We have the facilities, in rudimentary but workable form, at this Institute, and my object to-day is to assure you that these are at your disposal, and to endeavour to enlist your help, your sympathy, your advice, and your criticism in this campaign. Some of you already work with us, to your own benefit, I hope, and certainly to our great encouragement and assistance, and I would appeal to this association for more recruits. The Institute, with its records, its library, its laboratories, its meetings, with the knowledge and advice of its specialist staff, and with the coöperation of its ordinary staff, is at your service for the investigation of the problems of your daily work. If you cannot afford the time to come to St. Andrews a letter to the secretary will place any information we may have at your disposal. And if you have records of interest compiled in your practice and can let us have them to add to ours, we will be greatly in your debt. I look forward to a time when all this will be accepted doctrine, when institutes such as ours will be set up in every district in the country, and when part of the duty of each general practitioner will be to take his share in clinical research. Meanwhile let us do what we can, let us lay the foundations for that movement, a movement which will, I believe, achieve for general medicine no meaner triumphs than those described by Sir David Bruce at Toronto as having been effected for the tropical diseases—a movement which will lead eventually, through the discovery of the laws governing its phenomena, to the elevation of medicine from an empiric art to its true place as an applied science.

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JOHANNESBURG GENERAL HOSPITAL, SOUTH AFRICA.

The honorary surgical registrar at the hospital reports that, during the year ended March last, 305 cases of cancer were treated at that hospital—an increase of 18 over the number during the previous year. This year the number of deaths from cancer was 74, against 81 during the previous year. But despite this decrease in mortality the number affected by the disease is still on the increase. During the same year, ended March last, as many as 557 persons were admitted to the hospital suffering from appendicitis. Only 30 of the number were natives, but of the 30, six died, whereas only 15 out of the 527 Europeans died. The registrar admits, of course, that the death-rate among natives suffering from appendicitis is very high—20 per cent., as compared with 2·8 per cent. for Europeans; but this is mainly due to the fact that natives have not yet learned to seek medical advice early.

THE

Mitchell Lecture

[ABRIDGED]

ON

TUBERCULOSIS OF THE LARYNX:

ITS SIGNIFICANCE TO THE PHYSICIAN.

Delivered before the Royal College of Physicians, London, on Nov. 6th, 1924,

BY SIR STCLAIR THOMSON, M.D. LOND., F.R.C.S. ENG.,

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TUBERCULOSIS is the most important disease with which humanity has to cope. There is no other specific disease so common in the larynx. As the 106,990 cases of laryngeal tuberculosis in this country to-day must look principally to the physician for guidance and help, it is well worth while considering what assistance in his task can be offered by a laryngologist who, during a period of 10 years, has carefully watched the progress of 477 instances of laryngeal disease in 2541 patients with pulmonary tuberculosis.[1]

Proportion of Laryngeal Cases in Pulmonary Tuberculosis.

In the early years of this period 1 case out of every 4 had trouble in the larynx, while the average of the whole decade showed a proportion of 18·77 per cent. These patients were seen in a sanatorium and were, relatively, early cases, for the records of the post-mortem room show that the larynx is diseased in 48 to 83 per cent. of all fatal cases.

Suggestive Symptoms.—The two most suggestive symptoms are, first, slight but persistent huskiness, and secondly, discomfort referred to the throat or even pain in swallowing.

The latter is a symptom which is more frequent with advanced cases; therefore, for the all-important attainment of an early diagnosis, any hoarseness or any slight change in voice which does not clear up in two or three weeks should rouse suspicion and entail an expert examination of the larynx. But we must not forget that tubercle occasionally invades the larynx without causing the slightest alteration of voice or any other local symptom. Of the 477 cases of laryngeal tuberculosis I found no less than 57 (34 men and 23 women) who had no complaint of their throat and whose voices, both to their own ear and to mine, sounded quite clear and normal.

Proportion of Laryngeal Cases in Relation to Sex.—It used to be thought that the female sex was less subject than the male to contract pulmonary tuberculosis. But it has been shown that any difference between the sexes in this respect is not, as regards tubercle, due to any sexual predisposition but simply to the fact that, until recent times, women have led a more sheltered life and have been less exposed both to fatigue and to infection than men who work in office or factory. When both sexes are exposed to the same conditions, woman is just as subject to tuberculosis (in lungs or in larynx) as man; perhaps more so. The conclusion is that, amongst bread-winners, we must be prepared to find tubercle just as frequently in the larynx of the female as of the male. Another is that man's greater indulgence in alcohol and tobacco does not seem to render his larynx more vulnerable to tuberculosis.

Proportion of Laryngeal Cases in Relation to Stage of Pulmonary Disease.—It has long been established that the frequency with which the larynx is invaded increases with the progress of the pulmonary disease. This may occur even in 4·8 per cent. of cases in an early stage of the disease. These are cases with limited lesions and, at this period, might well be called "favourable." In severe cases the proportion mounts up to 18·3 per cent., while in the advanced type of disease which forms Group III. of the Turban-Gerhardt classification the proportion of laryngeal disease is almost double—viz., 31·5 per cent. Both women and men are increasingly liable to a laryngeal lesion with the progress of the pulmonary disease. Only 1 out of every 20 poitrinaires with an early lesion is liable to throat trouble; in more serious cases—i.e., those in Group II. of the Turban-Gerhardt classification—the proportion may be 1 in 5; and in the advanced cases of Group III. 1 patient in every 3 will have the disease in the larynx. This development, as will soon be shown, diminishes so markedly the prospect of recovery that it emphasises the great importance of diagnosing pulmonary tubercle in its early stage and persuading the patient to submit to the best treatment.

Region of Larynx Attacked.—It is quite certain that the favourite site is the neighbourhood of the posterior commissure—i.e., the interarytenoid area, the anterior surface of the arytenoid body and the vocal processes. The vocal cords come next in frequency, while the epiglottis and the region of the anterior commissure are attacked more rarely and are generally late extensions of the disease.

Prognostic Value of Tuberculosis of the Larynx in Regard to Mortality.

Of much importance to the general physician is an appreciation of what tuberculosis in the larynx counts for in regard to the mortality of pulmonary cases.

Of the 2541 patients with pulmonary tuberculosis who were discharged from the King Edward Sanatorium, Midhurst, between 1911 and 1921, the proportion of those alive between one and ten years later was, amongst those with a sound larynx, double that of those with tuberculous laryngitis. Of patients found to have tubercle in the larynx during these ten years, 2 out of every 3 were dead. Of those with a sound larynx it is the reverse—2 out of 3 were still alive. Of all the 477 cases of laryngeal tuberculosis which passed through my service at Midhurst between 1911 and 1921 no less than 70·5 per cent. are now dead. This darkening of the prognosis occurs in all stages of the disease.

Put in another way, a Group I. patient—i.e., a "slight" case—with a laryngeal lesion has a worse prospect than a Group II. case with a sound larynx. And a Group II. case—i.e., a "severe" case—with throat trouble has a gloomier expectation than if he had had a healthy larynx but lungs so invaded as to be classed in Group III.—i.e., an "advanced" case. Therefore laryngeal tuberculosis cannot be listed in any group which might be termed "slight" or "favourable." Its discovery at once labels a case as "severe," and authorises a physician to warn his client that treatment will necessarily, even in the most hopeful cases, be long and arduous. In only too many instances—in 70·5 per cent. of my fairly favourable selection—it will be his duty to advise the friends that the prospect of a recovery is so slight that it may be unjustifiable to submit the sufferer to any trying, dangerous, or expensive treatment.

Results of Treatment.

Let us now turn to the record of 119 cures. To appraise them at a fair value I may be permitted to say that such a large total of well-authenticated cases of healing in a larynx with tuberculosis has never before been published in this country. The satisfaction of quoting this record is enhanced when I recall that in 1880 Morell Mackenzie wrote: "The prognosis of laryngeal phthisis is always extremely unfavourable, and it is not certain that any cases ever recover." A complete repair of the larynx has been obtained in no less than 25 per cent. of patients with tuberculous laryngitis.

Cures: How Obtained.—I have no doubt that the principal factor in obtaining these arrests has been *sanatorium régime* and the prompt prescription of one

[1] StClair Thomson: Tuberculosis of the Larynx. Ten Years' Experience in a Sanatorium. Medical Research Council. H.M. Stationery Office. 1924. 2*s*. 6*d*.

or more of the three chief methods of local treatment—viz., whispers, silence, and the galvano-cautery. Fifty patients were cured, so far as local measures are concerned, by the simple reduction of voice use entailed by "whispers." Complete *silence* resulted in a cure in 23 instances, or in 34·3 per cent. of the cases in which it was ordered. Women give a slightly higher percentage of cures, both with whispers and silence, their greater patience and endurance—or recovery power?—being most noteworthy in the ordeal of the silence cure. The *galvano-cautery* yielded 16 cures.

Lasting Laryngeal Cures.—Of the 119 cases in which complete healing took place in the larynx, 69 are alive at periods varying from 2 to 10 years afterwards. Fifty are dead, and they have died, as a rule, with a still cicatrised larynx. Their deaths, usually, were due to the extent or virulence of their pulmonary disease.

Proportionate Progress of Pulmonary and Laryngeal Lesions.

The above references to the durability of healing in the larynx, while the disease in the lungs progresses, are sufficient to show that tubercle does not necessarily advance pari passu in both situations. This latter view is still maintained and, as it is not correct, it may occasionally mislead the physician. Improvement very commonly does proceed along parallel lines and, in the same way, a retrogression in one is often followed by progress of the disease in the other. Spontaneous cure has taken place in the larynx in many cases and has been maintained till the patient died of his pulmonary disease years afterwards. But the reverse has never occurred—i.e., I have never seen a larynx getting worse while the pulmonary disease has improved. It has occasionally, in such instances, been reported to me that the lung trouble was in statu quo; but, if the larynx did not mend, the pulmonary disease inevitably, within a definite period, took on activity.

This is useful knowledge for the physician. A larynx may improve or get well, while the lung disease remains quiescent or gets worse; but if the disease in the larynx advances the pulmonary disease cannot possibly become arrested and soon makes progress. This again shows the value to the physician, from the point of prognosis, of periodic examination of the larynx.

Tuberculosis in the larynx is always a serious complication of pulmonary disease. Physicians would be well advised, therefore, to assure themselves of its presence or absence in any case of tuberculosis. If present, it adds considerably to the seriousness of the prognosis and to the prolongation of the case and time required for successful treatment, even in cases otherwise early and promising. When the laryngeal lesion is extensive and active, the outlook is particularly serious. If the lesion is limited and becomes inactive, it may be arrested, although the prospect of life may not be great.

From prolonged observations on nearly 500 sanatorium patients, a cure of the laryngeal lesion may be secured in 1 out of every 4 patients. These were, comparatively speaking, early cases. But a much higher proportion of cures could certainly be obtained if more cases of pulmonary tuberculosis were diagnosed while they are still Group I. patients—i.e., with only 4·8 per cent. showing laryngeal lesions—instead of Group III.—i.e., with 31·5 per cent. with the larynx involved. More cures could be effected if every case of persistent huskiness or throat discomfort were earlier submitted to a skilled examination.

Principles of Success in Treatment.

It is manifest that a patient has a more sure hope of a quicker cure inside a well-conducted sanatorium than he can expect otherwise. The chief local requirement is voice rest, which can be so easily carried out in a sanatorium, but is elsewhere so difficult. Out of 119 cases which were cured, the healing was obtained without other local treatment than voice rest (whispers or silence) in no less than 73 instances. Local surgical methods of cure have all been abandoned by me as useless and frequently harmful.

The galvano-cautery is the best local treatment we have at present. In suitable cases it has replaced all other methods. It effected a cure in 46 out of 74 cases in which it was tried (=62·1 per cent.). Of these 46 cures, 29 are alive and well; 12 of them have now maintained their cure for 10 years.

Conclusions.

The majority of cases of tuberculosis of the larynx do not recover. It is necessary for the physician to recognise this; to try and determine which cases come within this category, and to act accordingly. But these 119 cures are witnesses of the more hopeful outlook we now have for a fair proportion of patients of whom an authority has said that, 45 years ago, "all were doomed to die: the appearance of the disease in the larynx was the warrant of death."[3] The pessimistic past has now a more optimistic outlook.

DIPHTHERIA PREVENTION.

THE SCHICK TEST AND ACTIVE IMMUNISATION IN VARIOUS SCHOOLS AND INSTITUTIONS IN THE CITY OF EDINBURGH.

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Introduction by

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AT the recent Conference of the Royal Sanitary Institute, held at Liverpool, the fear was expressed, or implied, that the introduction of the Schick test and the consequent immunisation of susceptible subjects by means of toxin-antitoxin would not meet with much success in this country. The reason offered was that our people had not been educated to the need for the procedure. If we had adopted such a *non possumus* attitude in Edinburgh we should possibly have shared the pessimism expressed during the discussion of Dr. R. A. O'Brien's excellent contribution. It is a mistake to underrate the intelligence and interest of the citizens of our respective administrative areas. They are keenly alive to the importance of prevention of disease. It was with that knowledge in my mind that a campaign of diphtheria prevention was begun in the Leith district. The response to our appeal for coöperation was most encouraging. Dr. Benson, my assistant, at once set to work and the results detailed in his valuable contribution should act as an incentive to others to go and do likewise. It is not work that can be lightly undertaken. Careful readings must be made by those who have studied a considerable number of reactions. Objections will naturally be offered to the procedure. We have experienced them.

Every effort was made by the "antis" to cast doubt on the value and safety of the various applications that were required. The most was made of accidents that had occurred in America and that had been duly explained. The members of the school authority were circularised, the press was tried, and the members of the public health committee were tempted, but no difficulties confronted us as a result of the attempted obstruction. I feel confident the results will convince hesitating parents that the procedure is not only safe but also wise. During the ensuing winter months the campaign will be continued, and when more facts are available they will be published. The figures given by Dr. W. H. Park, of New York, together with Dr. A. Zingher's interesting data, were so convincing that no doubt was left in my mind as to the need for doing more to reduce the incidence of diphtheria than the swabbing of

[3] J. Nolan Mackenzie: Jour. of Laryn., 1916, xxxi., 411.

throats, quarantining of contacts, and the costly treatment in isolation hospitals. It was only after Dr. C. B. Ker, the medical superintendent of the Edinburgh City Fever Hospital, had fully satisfied himself as to the efficacy of the Schick test and the safety of immunisation by toxin-antitoxin that the resolve was made to undertake a comprehensive scheme in the Edinburgh area.

DIPHTHERIA PREVENTION. BY DR. BENSON.

Diphtheria in Edinburgh.

In Edinburgh during the past five years we have isolated 5154 cases of diphtheria, including 687 carriers. Out of this number, 330 deaths occurred. An analysis of the above figures shows that whilst only 24·3 per cent. of the five thousand odd cases occurred in children under 5 years of age, this age-period accounted for no less than 60 per cent. of the total deaths. On the other hand, 75 per cent. of the cases occurred in children of school age and in adults with, fortunately, a diminished mortality-rate.

The ideal in any scheme of immunisation against diphtheria, as pointed out by many workers, would be to protect the susceptible child towards the end of the first year or in the second year of its life. This ideal, however, presents considerable difficulties in attainment. Where three-quarters of the diphtheria patients are 5 years of age or over, we may be justified in assuming that by protecting the susceptible children of school age, particularly in the infant classes, the diphtheria incidence should be diminished by at least a half to three-quarters.

The Start of the Scheme.

In May and June of 1923 a sharp outbreak of diphtheria occurred in a school in the Leith area. The ordinary methods of control, vigorously applied, were not found effective, and as a last resort, the holiday season being almost due, the school was closed. With this epidemic fresh in the minds of the parents, a good opportunity presented itself for advocating the application of more modern methods—namely, the Schick test and subsequent active immunisation of susceptible children. Early in November, under the auspices of the Parents' Association, a meeting was convened at the school. This meeting, very largely attended, was addressed by Dr. Robertson, the medical officer of health, and by Dr. Ker, the superintendent of the City Hospital. The Schick test and methods of immunisation were explained. Experience in the application of these methods, both at home and amongst school-children in New York, was quoted.

The Edinburgh Education Authority was then approached, and in December gave the Public Health Authority permission to carry out diphtheria prevention work in their schools in the Leith area, with the proviso that they accepted entire responsibility and, secondly, did not call upon the school medical staff for assistance. Early in January of this year the work was commenced.

Procedure Adopted.

A personal visit was paid to the headmaster of each school, when the methods and aims of the work were explained, and an endeavour made to enlist his active sympathy and support. For his information a memorandum on the Schick test and active immunisation, specially drawn up by Dr. Ker,[1] was presented to him.

As it was anticipated that the advice of the family doctor would influence many parents to grant or withhold consent, a copy of this memorandum was issued to each general practitioner in Edinburgh previous to the start of the campaign. Later experience showed the great advantage, both in obtaining a larger percentage of consents and in expediting the work generally, of obtaining the active interest and support of the headmaster and teaching staff. Zingher,[2] in his work in New York schools, emphasised the importance of obtaining the coöperation of the teaching staff.

The number of children attending the school up to the tenth birthday having been obtained, the requisite number of information leaflets and consent slips was supplied for distribution.

Information Leaflet.

Diphtheria is a dangerous infectious disease which mainly attacks children.

In Edinburgh we have more or less 1000 cases of diphtheria each year, and out of these some 70 to 80 children die.

There is now a safe and reliable means of preventing diphtheria.

By the use of a simple test (Schick test) it is possible to find out those children who are liable to take the disease and those who are not.

Those children who, by this test, are found to be susceptible to diphtheria can be protected against the disease.

Protection is obtained by a course of three small injections at weekly intervals.

Many thousands of children have been tested and protected in this and other countries, *and the methods employed have been proved to be effective and harmless.*

Facilities for testing and protection will be made available at every school as the need arises.

Children of under school age should be sent to the school with an older brother or sister in order that the various procedures may be carried out.

I strongly advise you, in the interests of your children, to have them protected against diphtheria. Once protected, it is believed they will remain so for life.

Consent Slip.

I hereby give the Medical Officer of Health or his representatives permission to carry out all the following procedures should he consider them necessary for the protection of my children against diphtheria—namely:—

1. The Schick test.
2. A course of three protective injections.
3. A final Schick test and protective injection after an interval of six months.

Date..... Signed.....

A leaflet and consent slip was taken home by each child under 10 years of age with the request that the latter should be signed and returned by a certain day, two or three days being judged ample. A list of children for whom consent had been obtained was then very kindly made out by the school staff, giving the name, age, address, and previous diphtheria history of each child. The necessity of adhering to the order of the list in marshalling the children before us on our various visits was emphasised, as thereby much confusion and delay was avoided. On completion of the list it was forwarded to the Public Health Department where a duplicate copy was made in a book which accompanied us on all our visits, and in which all observations were entered. Mutually convenient dates and hours were then arranged for the four to six necessary visits. Facilities were given to the parents to be present on the first occasion, at the test, when the technique was demonstrated and questions invited. At succeeding visits only those parents who had brought under-school-age children to the school for treatment were permitted to be present while the children were being injected.

On the day of the test the children were marshalled by the school staff in one or two queues varying with the number of operators present. The responsibility for the correct children being tested rested with the school staff. A large room with a good light and two doors was usually obtained. It is of great advantage, to avoid confusion, to have a separate entrance and exit. Two or more teachers were usually placed at our disposal. Whilst one very efficiently cleansed the arms with spirit, the other stood by the operator checking off each child as it was dealt with, whilst a third, if available, saw that the children who had undergone treatment returned to their respective class-rooms. This procedure was adhered to on successive visits. To complete the work four or five visits were required extending over a period of from 22 to 29 days.

At the first few schools six visits were paid in all, but latterly we have cut this down to five, or even four, with equally satisfactory results by reading on

the eighth day and giving the first immunising dose at the same visit. Our present time-table is as follows:—

Day.
1st .. Schick test.
8th .. First reading and first toxin-antitoxin injection.
15th .. Second reading where necessary and second toxin-antitoxin injection.
22nd .. Third toxin-antitoxin injection.
29th .. Final visit where necessary to complete absentees.

This time-table has the added advantage of making all visits on the same day each week, thus tending to lessen mistakes as to dates. It was found that where the organisation was very efficient, and an uninterrupted flow of children brought to the skilled operator, that the Schick test (without control) could be applied single-handed to from 100 to 120 or even more children within the hour. As an average, we might count on 100 tests per hour per operator. The immunising injections can be performed with at least equal rapidity. At any one of the various schools two skilled operators were found sufficient to deal with the number of children involved. The time actually spent at the school at any one visit rarely exceeded two hours.

Particulars of readings and dosage of toxin antitoxin mixture were entered in the day-book whilst actually examining the children. At the Public Health Department these particulars were copied on to record cards which were indexed. We are indebted to Dr. Ker for the type of record card which has been found very satisfactory.

Record Card: Headings.

NAME..... AGE..... SEX.....

ADDRESS.....

Protected—Date	SCHICK TESTS.		
Dosage	Date.	Result.	Pseudo.
Subsequent History:			

All notified cases of infectious disease for removal to the City Hospital are daily investigated in this card index and, if any should have undergone the Schick test, full particulars are forwarded to the hospital. The advantage of possessing this information in regard to patients admitted to an infectious diseases hospital is obvious. Should diphtheria occur in a person who has been tested, the fact is noted on the record card, under the heading "subsequent history."

Technique Employed.

In many of the children under 5 years of age the Schick test was dispensed with, and the child immunised straight away. In children between 5 and 10 years of age the Schick test was always applied, but without a control. We were led to dispense with the control test, available staff skilled in the technique being very limited, by the observation of Ker and McGarrity,[3] who found that among hospital cases only 3·1 per cent. of Edinburgh children between 5 and 10 years of age, mostly scarlet fever patients, gave a pseudo-reaction. There is thus a possibility that three children in every 100 have been wrongly classified as susceptible, and have thus undergone unnecessary immunisation. Nor, unfortunately, was the control test applied to those school-children from 10 to 12 years of age who for one reason or another crept into the scheme. In older children and adults, dealt with at various institutions, the test was invariably controlled.

The uncontrolled testing of children between 5 and 10 years of age has worked on the whole quite satisfactorily, but leaves the operator in a quandary on certain occasions as to whether to class a child as susceptible or otherwise, with the result that the child must be given the benefit of the doubt. This may account for the somewhat higher percentage of susceptible children we have found in this age-period—namely, 64·2, as compared with the figure of Ker and McGarrity—viz., 58·4. In carrying out the re-tests the control test is essential.

All the Schick test toxin and toxin-antitoxin mixture used was prepared by Dr. O'Brien, and supplied from the laboratories of Messrs. Burroughs and Wellcome. The dose given of the former was in all cases 1/50 of the minimum lethal dose for the guinea-pig injected in 0·2 c.cm. of normal saline; the dose of the latter was 1 c.cm., and the full immunising course consisted of three such doses at weekly intervals.

The test was performed on the left forearm. A 1 c.cm. all-glass syringe graduated in 1/20th c.cm. fitted with a No. 214 rustless needle gave a very accurate technique. The toxin-antitoxin mixture was injected subcutaneously about two inches above and behind the elbow. The first and third immunising doses were given into the left arm, and the second into the right. A 5 c.cm. record syringe, fitted with a fairly large bore needle, was found very expeditious and convenient to handle. The skin was cleansed with spirit. The needles were dipped in alcohol between each injection. In some 4000 tests and 6080 injections of toxin-antitoxin mixture no case of sepsis arose.

Number of Consents Obtained.

In Table I. the 16 schools are arranged according to the social status of the scholars, two fee-paying schools heading the list, and two schools attended by the poorest class children occupying a position at the bottom of the list. The intervening schools are attended by a mixed class of children. I am indebted to Dr. Robertson, for many years medical officer of health of Leith, for the above classification of schools according to social scale. The list does not profess to indicate fine differences between school and school.

TABLE I.—*Consents Obtained at 16 Board Schools.*

School.	No. of children under 10—		School.	No. of children under 10—	
	At school.	Consent obtained.		At school.	Consent obtained.
		%			%
A	57	49 (86·0)	I	259	147 (56·7)
B	473	266 (56·2)	J	386	110 (28·5)
C	182	121 (66·5)	K	456	227 (49·8)
D	457	348 (76·1)	L	311	34 (10·9)
E	484	217 (44·8)	M	340	130 (38·2)
F	465	190 (40·9)	N	500	178 (35·6)
G	537	244 (45·4)	O	602	168 (27·9)
H	584	246 (42·1)	P	489	107 (22·3)
Total				6573	2782 (42·3)

Table I. lends support to the view that the more enlightened the population we have to deal with, the greater response are we likely to get to new preventive methods. The very low figure of 10·9 per cent. for one school can be explained by the fact that this school is attended by children from an old fishing community very conservative in their ideas and very suspicious of new methods. In the case of School D the percentage (76·1) is the result of two opportunities having been given to the parents. At the first canvass, in January, consent was obtained for almost 50 per cent. of children attending school under 10 years of age. On a second opportunity being given four months later, permission was obtained for no less than 53 per cent. of the children under 10 years of age whose parents had hung back on the first occasion. This result is very encouraging, and suggests that when the methods employed are more widely known, and confidence established in their freedom from unpleasant reactions, more and more parents will avail themselves of the opportunity presented to them.

The fact that consent was obtained for 42 per cent. of 6573 board school-children between 5 and 10 years of age should help to remove, to some extent, that

feeling of doubt regarding the application of new preventive measures to the general population.

Children Under 5 Years and Over 10.

An endeavour was made to get at the pre-school age by inserting a clause in the information leaflet stating that younger children should be brought along to the school for treatment. It is a matter of regret that the parents of only 141 children under 5 years of age availed themselves of this opportunity. Other methods of approaching the pre-school population must therefore be devised.

Although we endeavoured to confine the preventive work to children under 10 years of age, in a considerable number of cases parents were so desirous of having older children tested, and immunised if necessary, that no less than 176 children between 10 and 12 years of age have crept into our records. It is among this group that the Schick test without a control gave rise to real difficulty in reading.

Consents, Tests, and Readings.

It is one thing to obtain consent, but quite another matter to carry through to a satisfactory conclusion at a school the various procedures necessary for the immunisation of the child. Out of 3099 children from 1 to 12 years of age for whom consent was obtained at the 16 schools, 2992 were actually tested, and of these, satisfactory readings were obtained for 2925, or 94·4 per cent. of the original consents. A wastage of 5·6 per cent. occurred, which was accounted for mainly by absenteeism.

Schick Test Results.

In all, 3457 adults and children have been tested since November, 1923, of whom 2925 have been school-children, and 532 inmates of various institutions, excluding the City Hospital. Table II. gives the results of all the 3457 tests made.

TABLE II.—*Total Cases in Schools and Institutions (November, 1923, to June, 1924).*

Age-period in years.	Total.	Negative.	Positive.	Per cent. positive results obtained at City Hospital.*
			%	%
1– 5	236	54	182 (77·1)	76·0
5–10	2718	973	1745 (64·2)	58·4
10–15	384	182	202 (52·6)	52·0
15–20	44	21	23 (52·3)	53·5
20–25	33	16	17 (51·5)	—
25–30	20	13	7 (35·0)	—
30–35	22	14	8 (36·4)	—
Totals ..	3457	1273	2184 (63·2)	—

* For comparison the results of 1540 tests performed on patients at the City Hospital from 1 to 20 years of age by Ker and McGarrity have been put in this column.

There is a very close approximation of our results to those obtained at the City Hospital. The difference of 5 per cent. in the 5–10 age-period may be accounted for by the fact that our readings, owing to the lack of a control test, were always liable to err on the positive side, and hence our susceptibles are probably too high by some 3 to 4 per cent. The diminution of susceptibility as age advances is evident in the table.

Table III. gives the Schick results obtained at 16 schools, and indicates how susceptibility varies not only with age but with social conditions.

The schools are arranged as before in descending social scale. The numbers in brackets recorded in the 1–5 and 10–12 year columns indicate the number of children on which the percentage figure is based.

The same social variation among New York school-children has been demonstrated by Zingher,[4] the generally accepted explanation being that children of the poorer classes, where overcrowding is a marked feature, are much more exposed than the children of better-class households to small and repeated doses of the diphtheria virus, insufficient to give rise to the actual disease, yet effective in producing an active immunity.

TABLE III.—*Schick Test Results in 16 Schools.*

School.	Total number of children tested.	Per cent. of susceptible children at different age-periods in years.		
		1–5	5–10	10–12
A	43	—	88·8	—
B	298	95·6 (23)	80·3	63·7 (11)
C	118	100·0 (9)	82·6	—
D	419	85·7 (7)	75·3	67·5 (80)
E	206	—	72·8	—
F	203	—	74·8	—
G	247	73·7 (19)	64·3	—
H	246	—	58·2	—
I	145	—	58·1	—
J	101	—	52·1	—
K	248	84·6 (26)	58·3	50·0 (6)
L	41	—	54·5	—
M	130	—	54·4	—
N	173	—	45·7	—
O	203	—	48·1	—
P	104	—	34·0	33·3 (9)

The following results obtained at a children's hospital are also suggestive of the part played by the social factor in the development of immunity. Forty-three of the nursing staff between 18 and 25 years of age were tested, and 58·1 per cent. were found susceptible, whilst in 11 maids of the same age-period the susceptibility was only 45 per cent. I might mention here that the entire medical and nursing staff of this hospital, 57 in number, showed a percentage susceptibility of 49·1. This figure approximates very closely to the 50·5 per cent. of susceptibles found by O'Brien[5] and his fellow-workers in the nursing staff of a London teaching hospital.

Familial Incidence.

Zingher[6] noted the marked tendency for all children of the same family to give a similar Schick reaction, either all positive or all negative. When the reactions vary, the younger children, as a rule, give a positive reaction and the older a negative. The results set out in Table IV., obtained during the investigation of 600 families, each of two to five members, lend strong support to the above view.

TABLE IV.—*Familial Incidence of Susceptibility to Diphtheria as Indicated by the Results of the Schick Test.*

Total number of families tested	600
Number of families whose members all gave a negative Schick test	143
Number of families whose members all gave a positive Schick test	280
Number of families in which the younger members gave a positive Schick test and the older members a negative Schick test	126
Number of families in which the younger members gave a negative Schick test and the older members a positive Schick test	51
Percentage of families whose members are either (1) all immune to diphtheria, (2) all susceptible to diphtheria, or (3) in which the younger members are susceptible and the older members immune to diphtheria	91·5
Percentage of families in which the younger members are immune and the older members susceptible to diphtheria	8·5

Does One Attack of Diphtheria Confer a Lasting Immunity?

Of 245 children who gave a history of having suffered previously from diphtheria, 118, or 48 per cent., were Schick-positive. This percentage approximates very closely to the 46·4 per cent. of susceptibles found by Ker and McGarrity in 157 patients with previous diphtheria history.

Active Immunisation with Toxin-Antitoxin Mixture.

The mixture used, the dosage, and the method of administration, have already been described. In

Table V. is shown the number of susceptible children at different age-periods at the 16 schools who were either completely or partially immunised, or escaped immunisation entirely.

TABLE V.—*Immunisations at 16 Board Schools.*

Age-period in years.	Number of susceptible children—			
	Completely or partially immunised.			Who escaped immunisation.
	3 c.cm.	2 c.cm.	1 c.cm.	
1– 5	90	3	10	7
5–10	1545	52	64	37
10–12	92	3	5	—
Totals ..	1727 (90·5%)	58 (3·1%)	79 (4·1%)	44 (2·3%)

It is very reassuring to note that no less than 92·6 per cent. of those children who received one injection completed their full course. One may assume from such a result that reactions following the toxin-antitoxin injections could not have been numerous, or, if so, were certainly not severe in type. Of the 181 partially or non-immunised children, 94 are accounted for by absence, 5 had left the school, 4 were too nervous, and 78 were due to withdrawal of consent by the parents. Of these 78 children, in 12, for no obvious reason, consent was withdrawn previous to immunisation. Forty-one withdrawals of consent occurred after the first injection of toxin-antitoxin, and may be ascribed to varying degrees of reaction. In the remaining 25 children, consent was withdrawn after two injections had been given. Excluding the 12 children who were withdrawn previous to immunisation, we find that the parents of 66 children refused to permit completion of immunisation, a percentage of 3·4.

In many cases I was able to satisfy myself that the reactions, the occurrence of which had been given as a reason for refusal to permit further injections, were very trifling.

TABLE VI.—*Total Number of Children and Adults Immunised in Schools and Institutions (November, 1923, to July, 1924).*

—	Toxin-antitoxin mixture—			Totals.
	3 c.cm.	2 c.cm.	1 c.cm.	
Schools	1727	58	79	1864
Institutions, &c. ..	230	4	6	240
Totals	1957 (93%)	62 (3%)	85 (4%)	2104

Reactions following Toxin-antitoxin Injections.

In the 160 children under 5 years of age who have undergone immunisation the almost entire absence of reactions was a very satisfactory feature.

In carrying out immunisations at the schools it was not possible to observe the children daily, hence a correct estimate of the number of children in whom definite reactions did occur was very difficult to arrive at. We can, however, definitely state that no serious or permanent ill-effects were produced in any one of the 1864 school-children who were injected with toxin-antitoxin mixture. The same statement holds good for the 240 immunisations performed in various institutions.

Complaints from the parents of 28 children reached our ears. This number amounts to 1·4 per cent. of the total number of children injected. We were able to satisfy ourselves in many of the cases that the general reaction had been trifling, or even absent, and that the rather fearsome redness at the site of the injection had naturally rather worried the anxious parent. In other cases, however, a more or less marked general reaction, necessitating confinement to bed, had occurred. These unpleasant effects were confined mostly to the group of children between 10 and 12 years of age.

In one institution the cases were observed daily after the first toxin-antitoxin injection, and clinical symptoms noted. The particulars are given in Table VII.

TABLE VII.—*Reactions following First Injection of 1 c.cm. of Toxin-antitoxin Mixture.*

Age-period in years.	Number of children who received the injection.	Reactions: Headache, anorexia, and local—	
		With temperature.	Without temperature.
5–10	41	1 (100° F.)	3 (symptoms very slight)
10–15	51	9 (99·4° to 101° F.)	4 (moderate or slight)

In the 5–10 age-group the temperature persisted less than 24 hours in the one case. In the 10–15 age-group the temperature remained elevated less than 24 hours in two cases, 24–36 hours in one case, and 36–48 hours in six cases. All the children had apparently perfectly recovered by the fourth day. The reactions following the second and third doses were not so marked, and the children were able to follow their usual routine.

Effects on School Attendance.

The Schick test, as was to be expected, gave rise to no interference with school attendance. The amount of school time lost, ascribed to the effects of the injections of toxin-antitoxin mixture, varied to an extraordinary degree in different schools—the better class schools tending to have fewer absentees than the poorer class schools.

In some seven schools an endeavour was made to arrive at the number of children whose absence was due to the effects of the injections.

In school C, out of 104 children immunised, there were two absentees who were each away three days. There was good evidence to show that both these children of 9 years of age had suffered from genuine reactions, and had each been kept in bed two days. This gives an absentee percentage of under 2. At school K there were 3 per cent. of absentees following the first toxin-antitoxin injection.

In school O a very different state of affairs occurred. Out of 95 children immunised, no fewer than 52 absented themselves for varying periods of time after the injections —a percentage of 54·7. The total school time lost was 72 days.

In schools A and B absentees were very few in number, whilst in schools I and J 27 and 16 per cent. of the immunised children were absent after one or other of the injections.

It is difficult to believe that such a variation in the percentage of true reactions can occur in children of the same age-period.

Development of Immunity.

In routine school work re-tests are not being performed until an interval of at least six months has elapsed since the completion of immunisation. As it will be several months yet before re-tests can be carried out on the majority of the 2000 children immunised during the first half of this year, we shall have to deal with this aspect of the subject more fully at some later date.

Previous to the re-test being applied, it has been thought advisable to issue the following notice to the parents.

Re-test Notice.

By the application of the Schick test your child was found to be susceptible to DIPHTHERIA and duly received three protective injections.

A sufficient interval of time has now elapsed to allow for the development of protection.

Before we can definitely state the child is protected against DIPHTHERIA a final Schick test must be applied.

This final test is now to be carried out.

In one institution we had an opportunity of carrying out re-tests at varying intervals of time on a group of 91 immunised children. Table VIII. shows the rate of development of immunity.

Out of 92 susceptible children from 5 to 15 years of age 84, or 91·3 per cent., developed immunity to diphtheria within five to six months of completion of immunisation. In the remaining eight children the Schick reaction was less marked than that given by the original test, being classified as faint positive in six and moderate positive in two. A fourth injection of 1 c.cm. of toxin-antitoxin mixture was administered to seven of these children, and on a re-test being applied some two months later it was found that all gave a negative Schick response.

TABLE VIII.—*Development of Immunity.*

Age-period in years.	Number of Schick positive children injected with 3 c.cm. toxin-antitoxin mixture.	Number who became Schick negative within—		
5–10	41	10 wks. : 26	18 wks. : 34	26 wks. : 38
10–15	51	8 wks. : 30	15 wks. : 43	21 wks. : 46

In another group of 29 immunised children and adults (2) only 13, or 44·8 per cent., had developed immunity within a period of five months. The original Schicks in this particular institution might be described as brilliant, and the diminished reactions in the remaining 14 positives (two had left) was a noticeable feature—five being described as faint and nine as moderate positive.

In a group of 155 school-children from 5–11 years of age who completed their full immunisation course six and a half months ago, a recent re-test showed that 66, or 42·6 per cent., had developed immunity. Of the 89 who still showed evidence of susceptibility, 53, or 34·2 per cent., gave a faint Schick reaction and might be termed border-line cases, whilst 36, or 23·2 per cent., were still definitely susceptible.

At first sight the low immunity percentages of 42 and 44 are very disappointing, and not what one has been led to expect from the experiences of other workers. It is highly probable, however, that it is only a matter of time before the border-line cases, some 34 per cent. in the latter group, also show a negative Schick reaction, and were one to re-test again six months or one year later, a much more satisfactory immunity result would be obtained.

Since writing these lines Dr. Ker has very kindly drawn my attention to a recent publication of Zingher and Park,[7] in which they emphasise the great importance of the time factor in the Schick re-test. They found that more than half of those who were still susceptible at the end of three to six months gave a negative Schick reaction one year later without having received any further injection of toxin-antitoxin.

The variation in the immunity results indicates that either the toxin-antitoxin mixture used varied in potency, or that in individual groups of children there are marked differences in the power of response to the toxin-antitoxin stimulus. Whatever the part played by the former, our results seem to indicate that the latter factor is certainly an important one. It is reasonable to suppose that the tuning up of the tissues to respond to the toxin-antitoxin stimulus is produced by exposure of the child to repeated subinfective doses of the diphtheria virus. Should this be the case we would expect to find a better immunity response to toxin-antitoxin injections in a group of children who show a low susceptibility rate than in a group with a high susceptibility rate.

In the institution where the immunity rate of 91 per cent. was obtained the original percentage of Schick positive reactors was 49, whilst in the two groups of children with immunity rates of 43 and 45 per cent. the Schick positive reactors amounted to 73 and 66 per cent. respectively. Our results to date indicate that in a relatively susceptible population with comparatively low diphtheria incidence, such as we have to deal with in Edinburgh, the primary course of three toxin-antitoxin injections will not suffice to produce immunity within six months in a large number of cases, and at least one additional injection will have to be given. The original consent slip has now been altered to provide for this contingency.

Issue of Certificates.

One or other of the certificates here shown, modelled on those at present being used by the New York Department of Health, are issued to parents as the occasion requires: (1) Diphtheria Protection Certificate (A and B); (2) Diphtheria Vaccination Certificate.

Diphtheria Protection Certificates. (A).

This is to certify that.....Age..... residing at.....is naturally protected against DIPHTHERIA as shown by the Schick test performed on.....192....at.....

Issued by.....

Date.....

(B).

This is to certify that.....Age..... residing at.....has received protective injection against DIPHTHERIA and is protected against the disease, as shown by the Schick test performed on .....192.....at.....

Issued by.....

Date.....

Diphtheria Vaccination Certificate.

This is to certify that.....Age..... residing at.....has received three protective injections of toxin-antitoxin against DIPHTHERIA. The final DIPHTHERIA PROTECTION CERTIFICATE will be issued after an interval of six months has elapsed, *providing* the child undergoes a Schick test and shows a negative Schick reaction.

Issued by.....

Medical Officer

Date.....

Summary.

When an opportunity was presented to the general population of having their children protected against diphtheria, the parents of 42 per cent. of children under 10 years of age attending 16 board schools availed themselves of it. A better response was obtained from the more educated classes of the community. An effort to reach the 1–5 age-period through the various schools has not met with the success one would have desired.

From an analysis of 5000 tests one may expect to find that on an average some 75 to 80 per cent., 60 to 65 per cent., and 50 to 55 per cent. of lower middle and poor class Edinburgh children at the age-periods 1–5, 5–10, and 10–15 years are susceptible to diphtheria. Dispensing with the control test in children under 10 years of age has not given rise to any serious difficulties, and where skilled staff is limited, and numbers to be dealt with very great, is a measure well worth serious consideration. In the re-test, following active immunisation, the control test is indispensable. Susceptibility to diphtheria tends to decrease (1) as age increases, and (2) as we descend in the social scale. In 91·5 per cent. of 600 families all the members either gave the same Schick reaction, negative or positive, or if they varied the younger members gave a positive and the older members a negative reaction.

Almost one-half of those who have had an attack of diphtheria remain susceptible to the disease as evidenced by the positive Schick reaction. Nine-tenths of some 2000 susceptible children completed the full immunising course of three toxin-antitoxin injections. No alarming or permanent ill-effects were produced in any one of the 2104 children and adults immunised. Absenteeism ascribed to the effects of toxin-antitoxin administration varied to a remarkable degree at different schools, being more in evidence in the poorer class schools than in the better class schools. In different groups of originally Schick positive children, from 41 to 91 per cent. developed immunity within five to seven months of completion

of a course of three weekly injections of 1 c.cm. toxin-antitoxin mixture.

There are indications that a better immunity result following toxin-antitoxin administration is likely to be obtained in a group of children where positive Schick reactors are few in number and the reactions faint or moderate in intensity, than in a group where positive Schick reactors are numerous and reactions brilliant. In the latter group either a longer period of time than six months will have to be allowed for the development of immunity, or else the primary immunising course will have to be supplemented in a very considerable number of cases by one or more injections of toxin-antitoxin mixture some months later.

We beg to thank Dr. C. B. Ker, the superintendent of the City Hospital, not only for much helpful advice, but also for very kindly placing at our disposal on various occasions members of his resident medical staff. Among the latter, all of whom did excellent work, it may be invidious to mention any one in particular, but to Dr. McGarrity, the senior resident medical officer, we are particularly indebted.

Dr. T. Y. Finlay, child welfare medical officer, very kindly coöperated in the work carried out at the Children's Hospital and various child welfare centres.

Lastly, we desire specially to acknowledge the courtesy and invaluable assistance afforded us by the teaching staffs of the various schools.

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THE SENSORY NERVE FIBRES OF THE HEART AND AORTA

IN RELATION TO SURGICAL OPERATIONS FOR THE RELIEF OF ANGINA PECTORIS.

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Sir James Mackenzie, in an article in THE LANCET[1] a short time ago, has criticised from a clinical point of view the surgical operations which have been performed in cases of angina pectoris. All operations in which nerves are cut are a balance of loss and gain, and as long as there is a chance of relieving the pain of angina pectoris, operations will no doubt be performed. What I wish to point out is that the operations as they have been conducted are open to grave criticism from the point of view of physiological experiment.

The aim of the operations has been to cut those nerves of the heart, or of the heart and aorta, which are capable of giving rise to pain, though occasional reference has been made to the effect of other kinds of afferent fibres. The presence of most classes of afferent fibres in a nerve can be determined by stimulation of its central end. Nerve fibres causing pain cause reflex movement, pressor and depressor vascular fibres are shown either by their effect on general blood pressure or by their local action; the presence of nerve fibres having a special action on inhibition or acceleration of the heart, respiration, contraction, or inhibition of particular organs, are disclosed. Conversely, the absence of any particular reaction shows the absence of a particular kind of nerve fibre. In the intact animal the reactions are complicated by pain, but pain can be abolished by decerebration or by anæsthetics, and the essential nature of the afferent fibres can be more clearly distinguished; pain fibres still cause reflex movement, the depressor nerve causes a fall of blood pressure, and so on.

The theory on which most of the operations have been made is that a considerable number of the sensory fibres of the heart pass to the central nervous system by way of the cervical sympathetic and of the vertebral nerve. This theory is based on the experimental results obtained by François-Franck[2] in 1889. He stated that stimulation of the head end of the cervical sympathetic and of the cervical end of the vertebral nerve caused marked reflex movements. In the course of investigations on the sympathetic system, I made observations on the afferent nerves of the thoracic viscera which, I think, showed that the reflex effect obtained by François-Franck from the cervical sympathetic was caused by attached vagus fibres, and that the reflex effect obtained by him from the vertebral nerve was caused by a small spinal nerve branch accompanying it near the ganglion stellatum. My experiments were made on cats anæsthetised with chloroform and ether. As nearly all were published a good many years ago,[3] I may give a brief account of them here.

In the cat, the chief sympathetic nerves of the heart (and other thoracic viscera) proceed from the ganglion stellatum (the combined inferior cervical and first thoracic ganglia of man). Stimulation of the peripheral end of this nerve causes marked quickening of the heart beat, and in consequence it is called the accelerator nerve. We may call it the major accelerator nerve, since some accelerator nerve fibres pass to the heart by way of the annulus of Vieussens and the inferior cervical ganglion (middle cervical ganglion of man). These nerve fibres may run in more than one nerve strand; we may call the strand or strands the minor accelerator nerve. It contains also the sympathetic fibres (if any) proceeding from the cervical sympathetic to the heart. In different mammals there is considerable difference in the position of the ganglia, in the place of separation of the nerve branches, and in their number and plexus formation, but no essential difference has been found, and there is no reason to doubt that the arrangement in man is essentially the same as in the cat.

Most of my experiments on the major accelerator nerve were made in the following way. The nerve and the sympathetic trunk below the fifth thoracic white ramus were cut. The white rami were cut successively and the central end of the accelerator nerve stimulated after each section. As long as any one of the first five white rami were intact the stimulation caused reflex movement; when all were cut, no reflex movement was obtained. It was clear, then, that sensory fibres of the major accelerator nerve entered the cord by the first five white rami, and that none, or at any rate no appreciable number, took the course of the vertebral nerve and the lower cervical spinal nerves. A few experiments were made on the lower thoracic white rami, and I concluded that the sixth white ramus also contained some of the sensory fibres, but the exact lower limit of origin I left for a future investigation, and this has not been carried out.

The minor accelerator nerve usually contains some fibres from the vagus, and the simplest way of determining its connexion with the thoracic and lower cervical spinal cord is to stimulate the central end of the annulus of Vieussens, which is its only connexion with this region. My experiments on this nerve were few, but in these it was clear that no sensory fibres passed from it to the vertebral nerve, and as far as they went they showed that the sensory fibres arose from the same thoracic roots as those of the major accelerator.

The conclusion that the vertebral nerve caused no reflex movement made it necessary to investigate the cause of the reflex movement which had been described as occurring when it was stimulated. On dissection, I found that a small nerve from the seventh cervical to the musculus longus colli was attached to the seventh cervical ramus. This nerve readily caused reflex action. When it was separated from the vertebral nerve the vertebral nerve caused peripheral effects but no reflex action of any kind.

The next point to consider is the supposed passage of sensory fibres from the heart to the central nervous system by way of the cervical sympathetic. Since the vagus contains sensory fibres it is necessary, when stimulating the sympathetic, to make certain that it contains no vagus fibres. To this end I isolated the cervical sympathetic and cut through the tissue between the ganglion nodosum and the superior cervical ganglion, leaving the anterior branches of the superior cervical ganglion intact. Stimulation of the head end of the cervical sympathetic caused, then, no reflex movement or other reflex effect. Between the two ganglia there are slender intercommunicating branches, and the vagus sends half a dozen to a dozen nerve fibres to the superior cervical ganglion. When these are not cut, I have sometimes found that the cervical sympathetic causes a brief checking of respiration, but I have not found any reflex head or body movement. As with the vertebral nerve, so with the cervical sympathetic, a reflex movement may be obtained if care is not taken that sympathetic fibres only are stimulated. Not infrequently a small nerve filament is given off by the vagus—usually from the superior laryngeal nerve—and runs with the cervical sympathetic. It corresponds in the main with the depressor nerve of the rabbit; it causes a fall of blood pressure, and, usually at any rate, it causes also marked inhibition of respiration, and, following this, reflex movement, chiefly or solely of the head. The reflex movements which have been described as produced by stimulating the cervical sympathetic were then, I consider, produced by the depressor nerve. It may be mentioned that a few myelinated fibres from the glosso-pharyngeal nerve sometimes enter the head end of the superior cervical ganglion. What becomes of these is not known.

Another form of surgical operation is based on the theory that the pain in angina pectoris arises from the excitation of nerve fibres ending in the aorta. Since in the rabbit the depressor nerve has been shown to send nerve fibres to the aorta, the aim is to cut the depressor nerve. But in the rabbit the depressor nerve has very few sensory (pain) fibres, and they appear to be inconstant, for many observers have found none. If, then, in man the exact homologue of the rabbit's depressor were cut, the section would have very little effect on the pain of angina pectoris unless the centres were very greatly sensitised. But, as I have said, the depressor in the cat has sometimes at any rate an appreciable number of sensory fibres, and this may also be so in man.

Daniélopolu, in a recent paper,[4] suggests that in angina pectoris the nerves cut should be the cervical sympathetic with any cardiac branches it gives off in the neck, the vertebral nerve, and the depressor. The experiments I have mentioned above show, I think, that if all these nerves were cut, no appreciable number of afferent fibres (of any kind) passing to the spinal cord by way of the sympathetic would be severed. Most of the vagus afferent fibres passing from the aorta would be cut, but a very small part (if any) of those passing to the heart.

The cardiac afferent fibres existing in the sympathetic can be severed without interfering with the innervation of the head, neck, or fore-limbs by cutting the major and minor accelerator nerves (most of these are probably in the major nerve), but this would sever also all the known sympathetic fibres both afferent and efferent of the head, lungs, and thoracic part of the œsophagus. From an operative point of view the simplest procedure is to cut the nerves passing medially from the ganglion stellatum, leaving intact the vertebral nerve and other rami communicantes. This, however, severs the sympathetic fibres to the head as well as those to the thorax. In the cat it is a very simple operation, and in those cases in which it has been performed it has not been found to have any fatal effect.

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VITAMIN B AND LACTATION.

BY GLADYS ANNIE HARTWELL, D.Sc.

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THE question as to what constitutes a suitable diet is one which commands a considerable amount of attention at the present time. Physiologically, we are told that a complete diet should contain protein, fat, carbohydrate, mineral salts, roughage, water, and vitamins A, B, and C. Some physiologists already want to claim the existence of a fourth vitamin, but this has not yet been conclusively proved. The *amount* of each constituent needed for health presents a difficult problem. With regard to carbohydrate, fat, and protein, various proportions are suggested as good dietaries—e.g., Voit gives 118 g. protein, 56 g. fat, 500 g. carbohydrate; and Atwater 125 g. protein, 125 g. fat, and 400 g. carbohydrate. Although there are slight differences, these dietaries agree in the main, and a ration of about 100–120 g. protein per day is found to be satisfactory.

When we come to consider the amounts of vitamins essential for the bodily welfare, we have, at present, no figures on which to base our ideas. It is reasonable to assume that there is a minimum, and if the intake falls below this, abnormal symptoms and disease will result. The literature on this subject is very extensive and a vast amount of work has been done to demonstrate the effects of lack of one or more vitamins. On the other hand, when one wants to consider how much of a vitamin is required for health, there is practically no definite evidence. It is frequently suggested that an "adequate" amount must be taken, but this is of no help to the practical dietitian. It is highly probable that the absence of any real data in this connexion is due to our inability to prepare chemically pure vitamins. The amount of these substances present in foods is usually given as +, ++, &c., but of course this is merely a rough indication of the vitamin content of that particular food. Further, one worker may give the content as + and another as ++, the discrepancies probably being due to different methods of investigation. There is very little research work which throws any light on the exact amount of any vitamin necessary, but Osborne and Mendel [1] have demonstrated that there is a quantitative relation between the vitamin B requirement and the size of the animal. These observers were working on rats, and Cowgill's [2] experiments on dogs afford further evidence in support of this statement. Some experiments of the author's indicate that the requirements of the lactating animal (rat) in respect of vitamin B are far in excess of those of the non-lactating creature. In a previous paper [3] it was shown that an excess of protein in the lactating rat's diet led to the development of abnormal symptoms in the suckling babies, and that the baby rats rarely survived. In a later paper [4] it was pointed out that the abnormal symptoms could be entirely obviated by adding to the mother rat's diet any food rich in vitamin B. Thus it was shown that vitamin B is a very important constituent of a lactating rat's diet. Possibly this is also true of a human mother's diet.

The experiments described below are of interest in that they prove that a diet may be eminently suitable for growth, maintenance, and reproduction, and yet produce harmful results in the sucklings if continued during lactation, in spite of the fact that the mother rat remains well.

Experiments and Results.

(*a*) *Diets used:* (1) 30·0 g. white bread, 3·0 g. food casein, 3·0 g. butter, 0·7 g. salt mixture,[5] water; (2) 30·0 g. white bread, 12 g. food casein, 3·0 g. butter, 0·7 g. salt mixture, water; (3) 30·0 g. white bread, 3·0 gluten, 3·0 g. butter, 0·7 g. salt mixture, water; (4) 30·0 g. white bread, 100 c.cm. whole milk;

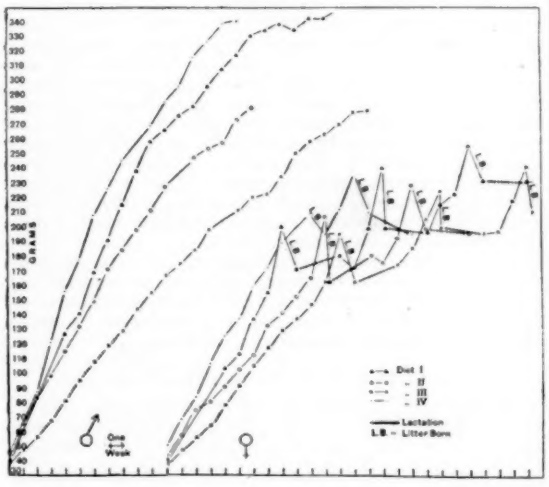
(5) small amounts of bread and milk per day, supplemented by kitchen scraps—i.e., a good mixed diet.

In diets 1, 2, 3, 4 the constituents were well mixed to form a paste, so that the rats could not pick out any one factor. The animals were allowed to eat as much as they liked; they were fed once a day, and the amounts were increased when necessary—i.e., if only a small quantity were left, the ration was increased, all the constituents being increased proportionately.

(*b*) *Method.*—The experiments were started when the young rats were three weeks and two days old. The young are usually weaned at three weeks, and are given a diet of bread and milk for two days, after which they receive the experimental diet. Six males and six females were used in each experiment; they were kept in a cage together, and therefore it was possible for breeding to take place. When a doe was pregnant she was removed from the large cage and placed in a small one by herself, where she remained until the litter was old enough to be weaned (unless she was unable to rear them), when she was returned to the large cage until she again became pregnant. At the beginning of the experiment the young rats were weighed daily, except Saturdays and Sundays, each animal being weighed separately. When they were older and therefore not gaining weight so rapidly, they were only weighed once a week. When litters were born the number of young was reduced to six on the day after birth. The mother was weighed every day and also the litter as a whole.

(*c*) *Results:* 1. *Growth.*—The male curves (Chart 1) are taken from the average weights of six animals in each experiment. The female curves represent the

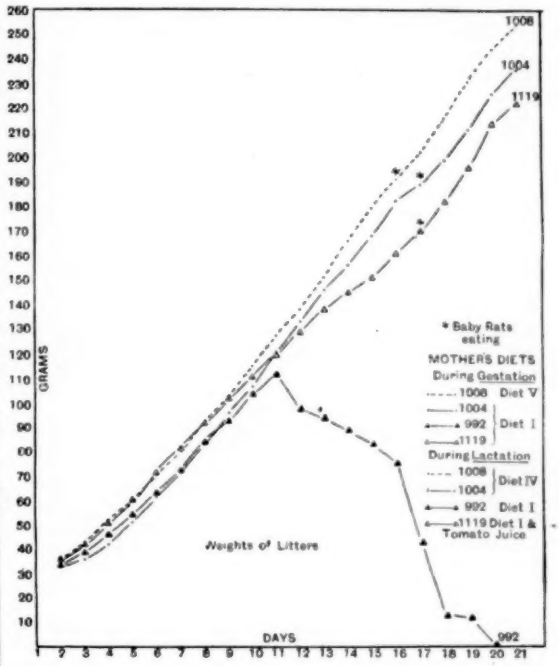
CHART 1.



growth of individual animals as it was not possible to take an average in this case, because the rats became pregnant at different times. On all three diets, 1, 2, and 3, the young rats grew well and were fit and healthy. In one experiment (diet 1) the feeding was continued for nine months, and this represents a large proportion of the animal's life, because the average age of the rat is 3–4 years. On diet 3 they did less well, probably owing to the fact that gluten is not such a good protein as caseinogen from the growth point of view. (This will be dealt with more fully in a later paper.) On diet 1 the animals showed a growth curve almost equal to that of the control animals, and decidedly better than the normal curve given by other workers—e.g., Donaldson,[6] Thus these diets appear to be satisfactory for the young growing animals and also for adult ones.

2. *Reproduction.*—Litters were produced at the usual time. The first three does which had litters while being fed on diet 1 were given the same food during lactation, but not one baby survived. They all died, having shown the typical symptoms previously described.[7] The growth curve of the litter of one of

CHART 2.



the experiments is given as an example (Chart 2, 992). When the next litters were born the mothers were fed on bread and milk (15 g. bread to 50 c.cm. whole milk) and these babies were successfully reared (Chart 2, 1004). This diet was chosen because it has been found to be a suitable one for the lactating rat, probably because it is a good mixed diet as far as the essential physiological constituents are concerned. In some further experiments the mothers were given diet 1 + tomato-juice (6 c.cm. tomato-juice to 15 g. bread, &c.) as soon as the litters were born, and again the babies were successfully reared (Chart 2, 1119). Tomato-juice was used as a source of vitamin B. There is nothing specific about tomato-juice; any extract containing vitamin B was equally effective. In Chart 2, 1008 is the normal growth curve of a litter whose mother received bread and milk during lactation, and a mixed diet of kitchen scraps and bread and milk (i.e., she was a stock animal) during gestation. It will be seen that there is very little difference in growth between 1008 and 1004. This suggests that the diet 1 is quite satisfactory during gestation, but not for lactation. Experiment 1119, and other similar experiments not quoted here, show that diet 1 can be made satisfactory for the lactating rat by the addition of more vitamin B.

Discussion.

Diets 1, 2, and 3 may be regarded as physiologically complete, with the exception of vitamin C which is poorly represented, if at all. In some earlier experiments it was found that the addition of lemon-juice to such diets made no difference to the growth and condition of the rats, and therefore it has been omitted since. Fat and vitamin A are represented in butter. Bread contains a large amount of carbohydrate, but is low in protein; this factor is supplemented by the

addition of more protein, either as caseinogen or as gluten. Vitamin B is present in the white bread,[8] and salt mixture was added to ensure a sufficient supply of mineral salts.

Diet 1 consists of approximately 22 per cent. protein, 12 per cent. fat, 66 per cent. carbohydrate; Voit's dietary gives about 18 per cent. protein, 8 per cent. fat, and 74 per cent. carbohydrate, therefore in comparison diet 1 is richer in protein and fat, and lower in carbohydrate. Atwater's standard diet provides 19 per cent. protein, 19 per cent. fat, and 62 per cent. carbohydrate, and hence contains a far greater proportion of fat than does Voit's standard. Diet 1 is richer in protein than either the dietary of Voit or Atwater, but is possibly more comparable to the diet of the more wealthy classes of human beings, who consume greater quantities of protein than the poorer classes, because protein foods are, as a rule, expensive. Diet 1 appears highly satisfactory for the rat *except* during lactation, and it can be made suitable for that period by the addition of more vitamin B. In other words, it appears that the lactating animal requires a greater supply of vitamin B, or else she is unable to rear her offspring successfully. This point is one which may prove of interest to the medical profession, in that nursing women so frequently cut down the fruit and vegetables in their diet to a minimum. Hence they are obviously lowering their vitamin B intake, since fruit and vegetables are an excellent source of this vitamin.

Diet 2 is much richer in protein and is, perhaps, hardly comparable to the dietary of the average human being, yet it is of interest in that it is like diet 1 in providing for growth and reproduction, but is absolutely unsuitable for lactation. As with diet 1 it can be rendered suitable for the lactating animal by the addition of vitamin B, but because it has a higher protein content than diet 1, still more vitamin B must be added to prevent the occurrence of the bad symptom in the sucklings.

Diet 3 is very similar to diet 1 in composition, except that the protein in this case has a lower biological value, and therefore the growth of the young rats is not so good. Otherwise the experiments gave identical results—i.e., diet 3 provides for growth and reproduction, but the mother rat cannot rear her babies on diet 3 unless more vitamin B is added.

Summary.

Thus, in general, one may say that various diets which are excellent for the growing animal may be totally unsuitable for the lactating animal. In the experiments quoted in this paper, with diets rich in protein, the lactating rat *must* have a greater supply of vitamin B than at other periods of her existence, otherwise she cannot rear her young successfully. If this be true of human beings, a mother taking a diet containing but little more protein than the Atwater standard should include in that diet considerable quantities of foods (e.g., fruits and vegetables) containing vitamin B.

The expenses of this research were defrayed by a grant from the Medical Research Council.

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NATIONAL MATERNITY HOSPITAL, DUBLIN.—At the annual meeting of the National Maternity Hospital, held last week, it was stated that 1200 patients had been admitted during the year, and there were 3132 persons treated at the dispensary; 111 students and 75 nurses attended the practice of the hospital. The total receipts exceeded the expenditure by £75. It was pointed out that the present buildings in Holles-street were inadequate for the work of the hospital, and the site gave no possibility of enlargement.

RECENT NEUROLOGICAL THERAPEUTICS.

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Typhoid Vaccine Treatment of Disseminated Sclerosis.

THIS form of treatment has been practised by us on a series of 70 cases of disseminated sclerosis at the National Hospital during the last 15 months. The idea originated in Vienna, at the Wagner Jauregg Klinik, where it was thought disseminated sclerosis was the result of some intestinal infection. Vaccines of various intestinal bacilli were tried and the most suitable was found to be typhoid. Eight to twelve intravenous injections of the vaccines are given at intervals of one, two, or three days, whichever is most suitable. After each injection one should, as far as possible, obtain a rise of temperature to about 100° F. This rise of temperature takes place within a few hours and then returns to normal within 12 hours. The first dose given is 25 million, and at each successive injection the dose is increased, though if the reaction has been severe from one dose, that same dose should be repeated at the next injection. As much as 400 million has been given in the final dose to obtain the necessary reaction.

This treatment combined with silver salvarsan injections in several early cases brought about a fairly good remission. In the older cases spasticity was slightly reduced, both in the remitting and in progressive non-remitting types of disseminated sclerosis. Two cases of disseminated sclerosis were recently admitted into hospital and treated with typhoid vaccines subcutaneously. The doses given were similar to those used intravenously. Eight were given in each case. No rise of temperature was observed. One of the cases was of the remitting type, the other of the progressive, non-remitting type. Both patients were unable to walk on admission and could not sit up in bed without help. General spasticity was well marked in both cases. The result in these two has been astonishingly good. They can now walk fairly well and spasticity has been much reduced. From these two cases it would appear that a rise of temperature was unnecessary.

As a result of our observations we are of the opinion that this method of treatment offers more satisfactory results than any other recognised method. The usual massage, passive movements, and remedial exercises are combined with this form of treatment.

Sodium Salicylate in Encephalitis Lethargica.

During the epidemic of encephalitis lethargica in the early months of this year several cases were admitted to the National Hospital, Queen-square, for treatment. Owing to the unsatisfactory results obtained by various forms of treatment, such as intravenous hexamine, intramuscular magnesium sulphate, and fixation abscesses, it was decided to attempt the alleviation of symptoms by means of intravenous injections of a solution of sodium salicylate 1 g. being dissolved in 5 c.cm. of normal saline. The injections were given daily for seven days in increasing doses commencing with 0·5 g. of sodium salicylate, and working up to 2·5 g. as a final dose, a total of 10 g. being given. An interval of a few days was then allowed to elapse and the course of treatment resumed. Five acute cases were so treated. Each case varied markedly in type, the following types being represented: myoclonic, excessive drowsiness, peripheral neuritic, and choreiform. Each case showed a marked improvement clinically; the drowsiness subsided; the myoclonic movements rapidly faded away; the pains of the peripheral neuritic type eventually completely disappeared; and the

choreiform movements ceased. Three of these cases reported several months later; it was then found that the alleviation of symptoms that had occurred had been maintained and, moreover, that no fresh symptom had arisen.

Stimulated by such results we next treated three cases of the post-encephalitic Parkinsonian syndrome. The results obtained in these cases were undoubtedly less successful, but in two of the cases the ability to write a legible hand returned and the rigidity was definitely reduced. These latter cases we have been unable to follow up.

In assessing the value upon this form of treatment we desire to state that we hold no brief for it as a specific cure. However, it may be justly said that the alleviation of symptoms was highly satisfactory, and that in future one could not say that cases of encephalitis lethargica had been fully treated, as far as present-day therapeutics allowed, unless intravenous salicylates had been given. We are at present using this form of treatment in acute cases of Sydenham's chorea. A further report of its value in such cases will be published at a later date.

Malarial Treatment of General Paralysis of the Insane.

This form of treatment was first systematically employed in 1917 in Vienna, though the method was suggested by Wagner Jauregg as early as 1887. The principle depends on the fact that in chronic disease a remission may occur after the attack of an acute specific fever. Artificially induced benign tertian malaria was found to be the best means of obtaining this fever.

The method of treatment consists in the withdrawal of about 4 c.cm. of blood from a patient suffering from benign tertian malaria who has not been treated with quinine. This blood is injected intravenously, or preferably subcutaneously, into the general paralytic. An irregular temperature is run for a few days to two weeks, when the typical rigors commence. A series of 12 rigors is allowed to take place; the last of this series may occur daily—double tertian. In some cases the rigors may be daily from the beginning. The fever is then terminated with quinine; the first dose of 15 gr. is usually sufficient to prevent another rigor.

Of the cases treated at the National Hospital, a full account of which was published elsewhere,[1] a few cases had remissions. Of the total of 18 cases mentioned in this article, now increased to 24, only two showed remissions comparable to those obtained in Vienna, so that one cannot confirm the optimism of the continental writers. Nevertheless, to obtain a remission in 1 per cent. of the cases of true general paralysis by this treatment warrants its continuance until some better method is found.

Salvarsan injections have been given on the cessation of the fever to improve the anæmia produced by the malaria and to act as an adjuvant to the treatment.

The Tremor of Paralysis Agitans Reduced by Splinting.

In idiopathic and post-encephalitic paralysis agitans the tremor in the hands may be very violent. This can be greatly reduced in many cases by overstretching a group of muscles such as the flexors or the extensors of the hand at the wrist. Radial or ulnar deviation of the hand may give an equally good result. This fact has been utilised by us in cases where the tremor was unilateral and troublesome. A splint was devised of light material with straps and buckles which maintained the hand in ulnar deviation. This could be fixed by the patient himself and could be worn for short periods without much discomfort.

The slight discomfort of the splint was greatly outweighed by the relief gained from a greatly reduced tremor. One post-encephalitic patient with a gross tremor of one hand, as if constantly playing the banjo, obtained much comfort even from a clumsy temporary splint, which maintained the hand in ulnar deviation.

Hypertonic Salines in Cerebral Tumours and Tabetic Crises.

The headache of cerebral tumours is well known to be intractable to practically all analgesics given by the mouth. Henry Cohen reports the use of hypertonic solution given intravenously in six cases of inoperable cerebral tumours. During the last six months we have had the opportunity of treating 12 cases of cerebral neoplasm, two of which proved on operation to be endotheliomata and the remainder gliomata. In each instance 30 c.cm. of a 30 per cent. sodium chloride solution were given intravenously. Following the immediate burning sensation throughout the body, relief of the headache was obtained; but we are unable to confirm Cohen's experience as to the duration of the relief. In all our cases the alleviation of the headache did not last more than 36 hours; hence we have repeated the administration of the solution every second day. On two occasions it was given immediately before operation and proved of undoubted value in lessening the intracranial pressure. In one case it was given after the bone had been removed, and it was evident to all present at the operation that the intracranial pressure rapidly became less, allowing the dura mater to be incised without immediate bulging of brain tissue and its possible consequent damage.

Four patients suffering from subtentorial neoplasms were similarly treated; two of these had a cerebello-pontine angle tumour, one had a large cerebellar cyst lying in the mid-line, and another a tumour of the fourth ventricle. In each of these cases the headache was increased and in one marked quickening of the pulse- and respiration-rates resulted. To explain these results allow us to postulate that the cerebro-spinal fluid is absorbed by the meninges covering the cerebral hemispheres, and that, as a result of the sudden relief of pressure externally, the tumour becomes larger and obstructs the inter-ventricular flow, thereby causing a relative hydrocephalus with its attendant headache. Moreover, as this might institute a herniation of the medulla into the foramen magnum we feel that administration of hypertonic saline in neoplasms of the posterior fossa is fraught with considerable danger.

An acromegalic patient, without enlargement of the pituitary fossa, obtained no relief of the temporal headaches by this form of treatment. Again, the headaches of two cases of pituitary tumour failed to respond to this mode of therapy.

A further extension of the usefulness of hypertonic saline occurs in the treatment of gastric crises and tabetic pains. In four cases suffering from very severe gastric crises hypertonic saline was injected with immediate consequent cessation of the attack. One case with repeated attacks responded three times and then failed to respond again; yet another case attends hospital immediately on the ushering in of a crisis for this treatment and obtains relief consistently. In six cases of very severe tabetic pains immediate relief has always been obtained.

Frequently following cranial operations a degree of œdema of the eyelids may arise which can be immediately reduced by intravenous injection of hypertonic saline. In one case we had the opportunity of watching a papilloedema for one hour after injection of the solution. Six minutes after the injection the height of the swelling was reduced from +5D to +3D, and only returned to +5D 12 hours later.

The following conclusions may thus be drawn: (1) That hypertonic saline given intravenously is of value in relieving headache in cases of cerebral neoplasm, either gliomata or endotheliomata. (2) That an element of danger arises in cases with neoplasm in the posterior fossa owing to a possible hydrocephalus resulting. (3) That gastric crises and tabetic pains may be relieved. (4) That papilloedema and orbital œdema are reduced. (5) That pituitary tumour headaches are not relieved.

[1] Journal of Neurology and Psychopathology, May, 1924, vol. v., No. 17.

Clinical and Laboratory Notes.

A CASE OF CONTRACTED TENDON TREATED BY THE ZANDER METHOD.

BY MAGDA H. HAMEL, M.R.C.S. ENG.

THE problem of restoration of good function in a long-established contracture of a tendon, though happily rarer than of old—owing to generally more efficient primary treatment—still confronts us from time to time, most frequently in the tendo Achillis. I have found that in old-standing cases a simple tenotomy gives less good results than a gradual stretching by mechanical means, of which the Zander machine is the most efficient, overcoming as it does the disuse immobility of the joint while the tendon is being stretched.

The following case, typical of many in which 20°–30° of dorsiflexion have been obtained in the course of some three weeks, was that of a foot with contraction of tendo Achillis following anterior poliomyelitis.

A girl of 21, who had anterior poliomyelitis at the age of 5 years with foot-drop and contraction of Achilles tendon as sequelæ, was sent to me on July 11th by Dr. G. L. Crimp. An Achilles tenotomy was performed three years before this date, but when I first saw the patient her foot could only by force be dorsiflexed to an angle somewhat more obtuse than a right-angle, though prolonged massage and movements had followed the tenotomy. In order to obtain greater flexion prior to a tendon transplantation I used the Zander ankle-machine. This machine, invented by Dr. Gustav Zander, of Stockholm, in 1865, and much more used on the continent than in this country, brings a strong, steady, easily regulated pressure to bear on the joint and tendons, and in my experience is more successful than any other method.

FIG. 1. FIG. 2.

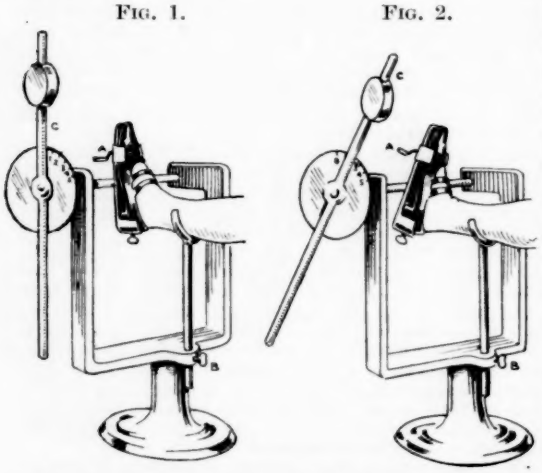


FIG. 1.—Leg placed on Zander machine prior to tendon stretching A, foot clamp; B, leg rest; C, lever, worked by operator.

FIG. 2.—Showing dorsiflexion of foot.

The foot is fixed in foot-clamp A of machine as in Fig. 1; leg-rest B is adjusted, and then the operator gradually pushes over lever C from zero position to points 1 or 2 on the scale according to sensations of patient and "give" of joint and contracted tendons (see Fig. 2). This movement is repeated for 20 minutes on the first day and the point of greatest flexion noted on the scale. On the next day this point will probably be reached quite easily, and a further few degrees of flexion will be obtained on each day of treatment. In this particular case the required degree of flexion was obtained in about three weeks, during which time the patient attended three sessions a week for this purpose, and also for electrical stimulation of the extensor longus hallucis muscle prior to its transplantation into the tendon of the completely paralysed tibialis anticus. Incidentally, after six weeks' treatment, the extensor longus hallucis, from a condition of great weakness, has now reached practically normal contracting power. While on the machine the patient felt not only the stretching of the Achilles tendon but also slight pain over the anterior aspect of the ankle-joint. This is not unusual in such old-standing cases for the reason explained above—i.e., the limitation of mobility due to disuse of the joint. The articular facets of the bones forming the ankle-joint now glide smoothly over a sufficient range to enable transplantation to be successful.

Tenotomy alone can only cure half the trouble in these cases, whereas on the Zander machine the two factors of contraction of the tendon and disuse atrophy of the joint are dealt with concurrently.

MALARIAL THERAPY IN GENERAL PARALYSIS OF THE INSANE.

THE DISAPPEARANCE OF GASTRIC CRISES AS ONE OF THE RESULTS.

BY W. M. MCGRATH, M.B., B.CH., U.C.D.

L.C.C. CANE HILL MENTAL HOSPITAL, COULSDON.

THE gastric crises common in tabes dorsalis, and which occur more often than is suspected in general paralysis of the insane, are exceedingly resistant to ordinary dietetic and drug treatment, so that the cessation of these distressing occurrences in a case of G.P.I., after treatment by malarial therapy, is deemed worthy of note. The only drug which can be relied on to control the vomiting and pain of a gastric crisis is morphine, and tabetic patients are especially prone to contract the morphine habit, while the operative treatment is so severe as only to be warranted in cases of the utmost severity.

The patient, a married man, aged 34 years, was admitted to Cane Hill Mental Hospital on Oct. 3rd, 1923. It is stated that he contracted syphilis at the age of 18, which had been untreated until two years from his certification.

He had been admitted to Charing Cross Hospital on Feb. 17th, 1922, suffering from sudden collapse, fainting attacks, and constipation, and with a history of frequent vomiting for six months—sometimes as often as 30 times in the 24 hours, with free intervals lasting up to seven days. These vomiting attacks were accompanied by severe epigastric pain and occurred independently of food. He had lost 3 st. in weight and was much debilitated. His blood was found to give a positive Wassermann reaction. He was given anti-syphilitic treatment, consisting of mercurial inunction and two injections of N.A.B.

After admission to Cane Hill he had a definite gastric crisis on Oct. 31st, 1923, when vomiting lasted for 36 hours. Further similar attacks were noted on Dec. 4th, 11th, and 22nd. Malarial therapy was started on Feb. 5th, 1924, and towards the conclusion of the treatment he had a further attack of persistent vomiting and epigastric pain. In this instance the vomiting continued for 14 hours. All these attacks of vomiting presented the characteristic features of a gastric crisis—i.e., onset sudden, severe epigastric pain, with repeated vomiting independent of food, a definite girdle of anæsthesia, pallor, and sweating. He tolerated the malarial therapy well and did not develop any complications. Since then he has remained absolutely free from all gastric disturbances of any kind, and has been on full ordinary diet.

While it is, of course, not justifiable to draw conclusions from a single instance, the cessation of these distressing occurrences in this case over a period of eight months makes it probable that this treatment might be worth a trial for severe and frequent gastric crises in an ordinary tabetic. The mental improvement was, of course, the object of the malarial therapy. That this was achieved is shown by the fact that the patient could be discharged as recovered, and it is also highly satisfactory that a physical condition so distressing and recalcitrant to ordinary treatment

was relieved at the same time. A series of cases of general paralysis are at present being treated at this hospital and it is hoped, at a later date, to publish a full report.

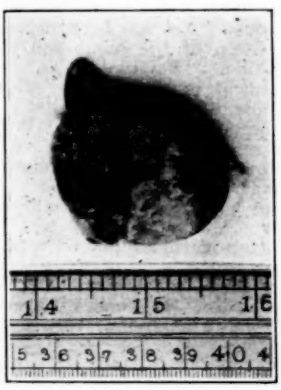
I am indebted to Dr. S. C. Elgee, the medical superintendent, for permission to publish this case, and I thank Colonel S. P. James, of the Ministry of Health, for his help and assistance.

URETHRAL STONE OF UNUSUAL SIZE.

BY JOHN CLAY, C.B.E., F.R.C.S. ENG.,
SURGEON TO THE ROYAL VICTORIA INFIRMARY, NEWCASTLE-ON-TYNE.

THE unusual features presented by this case are the size of the stone, and what is, perhaps, still more remarkable, the little discomfort it occasioned during its formation.

The patient, aged 44, married, with three children, is a hewer in a coal-mine. Twenty-seven years ago, when a boy of 17, he was crushed between wagon buffers, sustaining a fracture of the pelvis and a rupture of the bladder and urethra. He was operated on by Mr. Page, of Newcastle-on-Tyne, and made a good recovery. He followed his occupation without discomfort until Tuesday, April 22nd, 1924, when he began to suffer from very severe dysuria, and the scrotum began to swell. He attributed the condition to working in a wet part of the mine.



Urethral stone.

On April 25th he was admitted to the Royal Victoria Infirmary, Newcastle-on-Tyne, with retention and signs of extravasation of urine. He was operated on by Mr. Hamilton Barclay, who made a suprapubic cystotomy, and incisions into the extravasation. No instrument could be passed per urethram into the bladder. On May 13th, when examining the patient under an anæsthetic, I was able to feel definite crepitus in the swelling in the perineum, and the mass felt like a stone. I cut down upon it and removed a large stone. The stone (see figure) was 2½ inches by 1½ inches, and it weighed 9 drachms 20 grains. It had evidently fractured, and where the two fragments were in contact there were perfect saddle-shaped surfaces. At the distal side of the part of the urethra containing the stone there was a very fine channel, leading through a short stricture. I opened the urethra distal to this stricture and divided the stricture completely, passed a silver catheter into the bladder, and tied it in. The convalescence was smooth and uninterrupted.

I have been unable to find a record of the sizes of stones removed from the urethra, and certainly none of those that I have seen have in any way approximated in size to this. Twice before I have felt crepitus produced by urinary stones. In one case there were many stones in the kidney, and in the other stones in the prostate. So crepitus is a sign that sometimes assists in the diagnosis of stone.

In the course of my work I see many patients who are in receipt of compensation for disabilities, and it is remarkable how slight a defect sometimes renders a man incapable of following his occupation; yet this man, in spite of a very narrow stricture of the urethra, and a stone of this size lodged behind it, was able to continue his work as a coal hewer without even discomfort. The only explanation I can offer is, that there are men whose nervous systems are so constituted that they do not react to injuries and disease to the same extent as others, and it is, perhaps, fortunate for the mining industry that there are many such men.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION OF SURGERY.

A MEETING of this section was held on Nov. 5th, when Mr. H. J. PATERSON delivered his Presidential address, which he entitled

The Lure of the New.

[Speaking of the advances of modern surgery, he quoted Huxley's cynical remarks that the "customary fate of new truths is to begin as heresies and end as superstitions," and continued:—]

Nevertheless we are ever seeking new lamps for old. Some of our new lamps have a dazzling brilliance, but their endurance is transient; others shine as beacon lights on the pathway of progress. Although every inventor or originator is not necessarily an Aladdin, he plays a part of supreme importance in surgery, as in every other field of human activity. Whether his ideas be trivial or important, he stimulates thought. Like Lister he may change the whole practice of surgery, or he may merely make some small suggestion which ultimately may prove part of an epoch-making discovery. His new lamps may be useless for the purpose for which they are designed, but in other directions they may prove of extreme value. Sayre's plaster jacket was intended for the treatment of scoliosis. The method was sound, but its application to this particular disease was erroneous, but by drawing attention to this subject, in time it led to the enunciation of the correct principles on which lateral curvature should be treated. The birth of modern intestinal surgery may be attributed to an invention long since discarded, Murphy's button. The introduction of this method demonstrated the possibilities of intestinal anastomosis, and by focusing interest on this subject led to methods which have superseded the use of mechanical appliances.

Not seldom the new lamps given to us by inventors are spoilt by injudicious modifications or improper use. When Sir Arbuthnot Lane introduced his method of plating simple fractures, some surgeons employed it for the treatment of compound fractures, with unsatisfactory and often disastrous results. They were putting a valuable procedure to a use to which its originator stated it was totally unsuitable. I do not suggest that a new invention cannot be improved, but before attempting to make improvements it is wise to ascertain whether our ideas have already been tried without success.

The Disadvantages of Progress.

I think it will be conceded that even the greatest discoveries have disadvantages as well as compensations. The two greatest blessings given to surgery during the past century, anæsthesia and the principles fo asepsis, are not exceptions to this generalisation. Both have tended to prolong operations unnecessarily, so that to this extent they have been harmful, although the sum of the benefits they have conferred is priceless. In pre-anæsthetic days the surgeon tried to complete his work as speedily as possible, because he was inflicting pain. With the introduction of anæsthesia the surgeon could be more deliberate in his methods, and so unconsciously prejudiced the interests of his patients. In this respect the war was a bad training ground for young surgeons. Many long and very severe operations were performed for abdominal injuries, but the natural resistance of the patients was very different from that of the ordinary patient of civil life. In his fascinating Presidential address to this section two years ago, Mr. James Berry emphasised the value to the young surgeon of a thorough training in the making of post-mortem examinations. I would add to this wise advice that, in addition, some experience as an anæsthetist

should form part of the training of anyone who aspires to practise surgery. He would learn not only many useful surgical lessons, but he would understand more of the shock produced by operations. The drugs used to induce anæsthesia are highly toxic, and we are apt to forget that apart altogether from the effect of the operation, the anæsthetic has also a harmful influence on the patient. Every experienced anæsthetist knows that even the strongest patient begins to flag perceptibly after an hour, and after an hour and a half this change is still more accentuated. Dr. R. T. Morris, of New York, relates how a house surgeon who had served under two surgeons of about equal capability was asked his reason for the difference in their statistics. His reply was "About ten minutes." There is a wealth of wisdom in this seeming exaggeration. The expert anæsthetist, not being a politician, keeps our patients in such a state of tranquillity that we are tempted to be almost too deliberate, and to forget the importance of rapid, or rather expeditious operating. Let us each ask ourselves whether our technique may not be simplified without loss of efficiency. We must not make a goddess of technique and forget that it is of no less importance to assist nature by conserving the patient's resistance. In our attempt to secure perfect asepsis we may so prolong the operation that the patient's chances of recovery are prejudiced. Better incomplete technique and a live patient than a perfect technique and a dead patient. I am not sure that a good case could not be made against the use of rubber gloves. At any rate, Sir Harold Stiles without them has achieved results surpassed by none. Lawson Tait, too, showed what could be done with a simple technique and expeditious operating. His results were so good that the surgeons of his day took refuge in regarding their accuracy with an attitude of unphilosophic doubt.

[The lecturer then pointed out the danger of "short cuts" as instanced in the practice, largely fostered by war surgery, of omitting drainage of a wound as far as possible. In his experience, excision and primary suture were rarely satisfactory. Passing on to the value of laboratory methods in diagnosis, he emphasised the point that such methods were an aid to, but not a substitute for, clinical observation.]

Intestinal Stasis.

Not one of the least dazzling lamps given to medicine in recent years is the hypothesis that intestinal stasis is responsible for many of the ills to which our flesh is heir. It is alluring in its simplicity and fascinating from the vista of hope which it opens up. It has been given to few to originate two such startling proposals as the operative treatment of simple fractures and the surgical treatment of intestinal stasis, and Arbuthnot Lane has not escaped the criticism and bitter opposition which falls to the lot of all pioneers. Few subjects have excited greater controversy than the statement that intestinal stasis produces toxæmia. It has been assumed that such teaching is unscientific, because we do not know the nature of the toxins produced or even of their existence. This argument need not perturb the seeker after truth. The malaise and debility which accompany tuberculosis were recognised long before the discovery of the bacillus which produces the toxins which are the cause of the constitutional symptoms. This much at least we do know, that patients who are the victims of a disorder which impairs their mental and bodily vigour, which causes such constant discomfort and pain as to reduce them to a state of misery, and which renders them incapable either of work or enjoyment of the pleasures of life, may be relieved by treatment directed to the removal of existing intestinal stasis. This is a truth established by the work of surgeons all the world over. When, however, we consider to what extent surgery should interfere, there is room for wide divergence of view. Whether all Lane's teaching be true or not, time alone can show, but without doubt his lamp has cast light in hitherto dark places, and has led to a new conception of abdominal diseases.

[The lecturer then spoke of the modern tendency towards specialisation in the many fields of modern surgery, and dealt at some length with the relative merits of gastro-jejunostomy and partial gastrectomy in the treatment of gastric ulcer. A battle had been raging between the "ectomists" and the "ostomists," and for the present numerical victory was with the "ectomists," but "safety first" was a good slogan in surgery, and in the hands of the average surgeon partial gastrectomy, as a severer operation, had a much higher mortality than gastro-jejunostomy. Considering the position of surgery as a whole, he said:—]

The Art of Surgery.

It is significant that, in spite of the multiplication of specialities, the general physician and general surgeon in their outlook and attitude of mind are converging rather than diverging. The physician of to-day must be a surgeon except as regards the craftsmanship of their common art, and if I as a surgeon may say so, there are physicians whose surgical judgment cannot be excelled. Equally the modern surgeon, if he is to do his work with satisfaction to himself and with advantage to his patients, must have a wide knowledge of general medicine. He is no longer a carpenter to operate at the behest of another. He is rightly expected to make his own diagnosis and to form his own judgment. Indeed, a surgeon may be defined as a physician who has learned to use his hands. Art has been defined by Ruskin as "the operation of the hand and the intelligence of man together." Surgery is an art, and although, in addition, it is slowly and surely being built up into a science, it seems to me that the science must ever be subservient to the art. With all the aids that modern science can give, there still remains the personal factor, call it judgment, clinical acumen, intuition, or what you will. We must ever be on our guard that our judgment is not warped by the lure of the new. New lamps may add to our light, but they cannot altogether replace the old. The true wisdom of surgeons is experience. As Napoleon so well said: "The world is very old; so we must profit by its experience. It teaches that old practices are often worth more than new theories."

ROYAL SOCIETY OF TROPICAL MEDICINE AND HYGIENE.

AN ordinary meeting of the Society was held on Oct. 23rd, Sir PERCY BASSETT-SMITH, the President, occupying the chair.

Sir MALCOLM WATSON read a paper, which was profusely illustrated by means of the epidiascope, entitled

Observations on Malaria Control,

with special reference to the Assam tea-gardens; and some remarks on Mian Mir (Lahore Cantonment).

Sir Malcolm Watson said he recently visited a large group of tea estates in Upper Assam for the purpose of advising on the control of malaria, which was prevalent in the gardens. It was evident to him that the disease was widely-spread throughout Assam, and from this and other causes the death-rate of the workers was high at one time, but the efforts which had been put forth of recent years had made a high death-rate a thing of the past, and the speaker paid a tribute to the medical officers of the gardens for what they had done. He first showed, in illustration of the measures which were effective in reducing malaria incidence, slides explanatory of what had been done in the Federated Malay States. Tide gates were established, and deep drainage of the mangrove swamps was carried out. This, with clearance of the jungle for 20 miles, had resulted in the complete abolition of the disease from the district, and the spleen-rate among more than 900 children

was 0·9 per cent. Next, an open drainage system of coastal plains was carried out, and with this and the cultivation of the land, malaria disappeared. In the coastal hills malaria was found due to the presence of *Anopheles umbrosus* where the ravines were covered by jungle, and disease due to *A. maculatus* when the ravines were cleared. The problem was solved by putting the springs and streams into subsoil pipes, and using refuse oil. Since the health officers in Singapore began their work in 1912, it had been computed that they had saved 35,000 lives. Dr. Strickland made the important observation that inland hills which were under the jungle were free of malaria because *A. umbrosus* did not breed in them; only when they were cleared did the district become malarious, and then the disease was due to *maculatus*. In the matter of rainfall and general climatic conditions there was close approximation between Malaya and Assam.

The great physical feature of Assam was a broad flood-plain bounded by high banks and traversed by a winding, flowing river, which, however, formed two loops which became gradually silted up. The original jungle has been cleared away to make room for the rice-planting, and in the uncultivated land merging on this the speaker found *A. maculatus* and *A. minimus* in abundance, and malaria very prevalent. Among 9146 children he found a spleen-rate of 69 per cent. and of 2416 children of 2 years and under 61 per cent., had enlarged spleens. These particular estates were among the richest and best worked in India, and the coolies were well housed. In addition, pregnant women received good care, both before and after confinement, and ceased work during that period. But all the usual health measures failed to prevent infection of coolies by the malaria parasite, though it helped them to acquire immunity, an immunity apparently inherited by the children. Still, 69 per cent. of the children on the estates had enlarged spleens. Nothing short of a direct attack on the mosquito could be expected to stamp out the disease.

One method of controlling the insects was to remove all the coolie lines to a central spot, and to abolish all breeding places of the mosquito within half a mile of it. This would have meant a large sum for removing and rebuilding coolie houses. The alternative was to leave the coolies where they were and strike at the two dangerous species of anopheles: *A. maculatus* and *A. minimus*. Usually he found that the lower and flatter the land, the lower was the spleen-rate, for the higher the land, the better was the opportunity for *maculatus* to breed. In Assam it was in the best and best-managed estates which showed the highest prevalence of malaria. Experience, both that of Gorgas in America and of our own workers in the Empire, showed that ordinary sanitary measures were powerless to prevent malaria; there must be a proper system of drainage to eradicate the breeding places. Sir Malcolm Watson's advice could, therefore, be summarised in a sentence: The establishment of effective drainage, coupled with the administration of cinchona to children and all fever cases. These measures, he said, would soon result in the control of the disease.

From Assam, Sir Malcolm Watson proceeded to the Lahore Cantonment (Mian Mir). In the work carried on there between 1902 and 1908 he thought wrong methods were adopted, but it was the first attempt to control malaria in India, and the irrigation system complicated the problem and confused the issue. Certainly, however, the results expected were not achieved. He had great hopes for a very great diminution in the prevalence of malaria as a direct result of measures such as he had advised and carried out.

Discussion.

The PRESIDENT spoke of the importance, in this work, of intelligent coöperation with the medical officers on the part of the owners of the estates and lands concerned. Sir Malcolm Watson evidently had a large measure of that optimism which was such a factor in success.

Sir RONALD ROSS, F.R.S., said the speaker's work had been very great, and he questioned whether either its extent or its importance was adequately appreciated in this country. The great work of Gorgas in the Panama region had the financial backing of the American Government, a very different state of affairs from that associated with Sir Malcolm Watson's work, which started at about the same date, some 25 years ago. The latter had to try to persuade hundreds of people, owners of land and others, to assist in the work, and it was a very difficult matter. The lecturer had shown how necessary it was to deal with the different species of mosquito in different ways; also how supreme was the importance of having no stagnant water about. He hoped the Indian Government would take the matter up energetically, and not allow mankind to be defeated by the mosquito, an insect which killed about two million people per annum. The campaign was not only necessary for the reduction of illness and suffering, but it was also eminently a paying proposition.

Sir WILLIAM LEISHMAN, F.R.S., said he thought Mian Mir was a much-maligned spot. Thirty years ago he spent three years there, and the British soldier in that place did not die very much from malaria, though the spleen-rates were appalling. Deaths were due rather to dysentery and enteric. In those days the importance of drainage was not realised. He hoped that the Treasury would take careful note of this communication.

Dr. ANDREW BALFOUR said he had listened to the paper with mingled feelings of sadness and pride; sadness that after a quarter of a century of effort such a state of things now existed in India, and pride at the achievement which Sir Malcolm Watson's work had resulted in. There was great need for more apostles of hygiene to be sent out, like Sir Malcolm Watson, to persuade people on the spot to take a hand in their own remedial measures. He insisted on the great potency of soapy water in killing off mosquitoes, and said if this were used it would greatly reduce the still too-high incidence from this disease.

Major E. AUSTEN expressed his pleasure that emphasis had been laid on the importance of biological research in this campaign, for the particular species being dealt with in a region must be known before measures undertaken could be expected to succeed. He agreed as to the destructive effect of soapy water; he had often noticed many dead mosquitoes after soldiers had washed in the water inhabited by insects, and some experiments he made with water from a used bath enforced the same lesson.

Dr. C. M. WENYON spoke of an occasion when many anopheles and other mosquitoes came on board a ship which was ten miles from the shore. On another occasion, when at the same distance, a number of house-flies, which had been pursued by dragon-flies, reached the ship.

Dr. P. H. MANSON-BAHR spoke of epidemics on board liners from the East which had occurred during the last two weeks, in order to enforce the need for a much more energetic dissemination of knowledge concerning malaria in every country. When the P. and O. liner *Macedonia* arrived in English waters she had lost one of her officers from malaria, and when she reached Southampton two of her officers, 20 to 30 of the white crew, and a large number of lascars were admitted to hospital suffering from subtertian malaria, in various stages and of various types. At Bombay the ship had been anchored half a mile from shore, opposite some building operations, where there was a pool of stagnant water. Many of the ship's men slept on board. There was no report of sickness when the ship set sail, and thereafter those whose duties were not the most strenuous carried on, though for ten days they became less and less fit. Then they began to go down one after another,

and eventually the struggle had to be given up. Many of the cases were not recognised on the voyage to be malarial at all, and inquiry showed that the amount of quinine given was not enough to control the fever; there was not enough of it, nor was that in stock of the right kind. A similar occurrence took place on other boats leaving the East at about the same date.

Colonel W. W. CLEMESHA related similar experiences at an earlier date, and said that inquiry of an officer who had suffered from inadequate medical attention on several voyages elicited the reply that the medical officers he sailed with were either very young or very old.

Sir MALCOLM WATSON, in replying on the discussion, said it was not an easy thing to educate in these matters those who provided the money. He often remarked that most of his life had been spent not in fighting the mosquito, but in fighting men who were preventing him from fighting the mosquito. A great source of malaria in Bombay was the continuance of the Hindoo well in private houses, and as long as the hands of the Indian Medical Service were tied in that way, real progress would be impossible. He instanced one estate on which £7000 were spent in these remedial measures, and thereafter more than that amount was saved commercially every year on that particular land. He did not think the distance the mosquito could fly was quite the same question as the control of malaria. It could fly half a mile, but if its breeding places were half a mile from a cantonment, the number of the insects which covered the distance and could thereafter infect would prove to be practically negligible. He had carefully investigated that question. If there should be a taxation for the purposes of the campaign, he was sure it would more than justify itself.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

A MEETING of this Society was held at Liverpool on Oct. 17th, Prof. ARCHIBALD DONALD, the President, being in the chair.

The PRESIDENT opened a discussion on the

Treatment of Mobile Backward Displacements of the Uterus.

He discussed the significance of backward displacement and said that there was a good deal of difference of opinion amongst writers on the subject. The views of various modern writers on the passive congestion theory were set forth. The objections to the congestion theory were that retroversion was *not* the cause of endometritis or chronic metritis. There were some difficulties, he said, in explaining the effects sometimes produced by a pessary. As a result of investigating the symptoms he had arrived at the following conclusions with regard to the condition. (1) Complications were generally the only things that mattered in cases of retroversion. (2) These complications were: (*a*) disordered uterine function; (*b*) increased weight; (*c*) prolapse; (*d*) adhesions. (3) None of these complications were produced by retroversion. (4) In a small proportion of cases an apparently simple retroversion caused local pelvic discomfort and even a certain unexplained effect on the nervous system. (5) The treatment of retroversion was nearly always the treatment of complications. More than 90 per cent. of all the patients sought relief from symptoms which were common to all cases of endometritis and chronic metritis, and for these curetting was nearly always advisable. A series of cases in which curetting had been the only treatment was recorded. Mechanical treatment was carried out (*a*) by pessaries, and (*b*) by fixation or suspension operation. Pessaries seemed of use as a temporary measure in cases of sterility and early pregnancy, and very occasionally in uncomplicated retroversion. In his opinion there were far too many operations for fixing and suspending the uterus. The great majority were unnecessary, and many of them were harmful.

Prof. HENRY BRIGGS imagined that a student, ignorant of all gynæcology including its nomenclature, would naturally classify the backwardly-displaced uterus within the pouch of Douglas as a hernia and aim at the strengthening of the deep portion of the pelvic floor and the rectification of the position of the uterus. He said that it was more than singular to have to acknowledge, for example, that the best use of a 3 or 3¼-in. ring pessary was advocated 24 years ago by the late Sir William Sinclair (Trans. Obstet. Soc., 1900) in the treatment of the retroflexed gravid uterus; even to-day this advance was not to be found in the obstetrical text-books. Prof. Briggs had not the least doubt that a pessary in situ and frequent urinary catheterism, in gentle and persistent effect, totally out-classed manual reposition.

Dr. G. W. FITZGERALD agreed that not all retrodisplaced uteri required treatment. Symptoms accompanying the displacement were not necessarily due to it. The important matter was to find what treatment would give the best results. If the curette could show results equal to abdominal section, then the minor treatment was to be preferred. He curetted all cases that produced symptoms, and only rarely found more radical treatment necessary.

Dr. J. E. GEMMELL said that he was in agreement with Prof. Donald that simple retroversion in single women was symptomless in the majority of cases. In parous women, however, he was of the opinion that this displacement was, in itself, capable of producing a definite train of symptoms. He could not help thinking that there was a world of difference between an organ that was developed in a particular position of version, and one that acquired such a position. The vessels of the former had been congenitally adapted to meet the requirements of the retroverted uterus and could do so smoothly and without embarrassment to the circulation, whilst in cases of acquired retroversion the vessels shared in the displacement and were thereby exposed to abnormal pressures that fell chiefly on the veins and consequently led to back-pressure and congestion. The resulting symptoms *simulated* endometritis and metritis, but he believed they were essentially due to congestion, and he therefore supported the mechanical theory. In his opinion there were three clinical types that demand correction and fixation: (1) In a limited number of congenital cases when the patient complained of sterility, repeated abortions, dysmenorrhœa, or dyspareunia; the type with neurosis and backache was expressly excluded. (2) In obstetric types with the following cardinal signs: a bulky, tender œdematous and often incarcerated (but not fixed) uterus, associated with pain, menorrhagia, leucorrhœa, or dyspareunia. (3) In cases of simple retroversion accompanied with early prolapse in young women of child-bearing age.

Although pessaries and general therapeutic measures were useful adjuncts, and might even be curative in mild cases, he said he wished to limit himself to the surgical treatment by ventrofixation of this condition, and proposed to base his remarks upon 125 cases of simple retroversion that were published in THE LANCET of June 18th, 1921, in collaboration with Mr. Leyland Robinson.

A summary of the results was as follows: 85·6 per cent. cured, 10 per cent. relieved, 4·4 per cent. failures. The principles of ventrofixation, Dr. Gemmell said, were not generally understood, and he believed that this procedure had acquired an unpopular reputation because most gynæcologists had studied the wrong type of operation. The type he and his colleagues had practised was planned to fulfil the three essentials upon which the success of all gynæcological operations depended—namely: (1) Freedom from immediate risks, such as intestinal obstruction; (2) freedom from the risk of interfering adversely with subsequent

conception and parturition; (3) ability to relieve symptoms.

The proof that ventrofixation met these requirements was furnished by the following facts: (1) Of upwards of 700 ventrofixation operations performed by him, one patient died from sepsis under circumstances that had nothing to do with the operative procedure. There were no examples whatever of post-operative strangulation of gut. (2) Of 220 cases in which a complete after-history was obtained, 63 women subsequently became pregnant and were safely delivered of 104 children without a single case of dystocia or stillbirth. (3) The effect of ventrofixation on symptoms had already been dealt with (85·6 per cent. cures).

Successful operative technique depended upon three chief factors: the choice of a suitable fixation-point; the prevention of adventitious intraperitoneal bands and holes through which the gut might strangulate; and the achievement of a fibromuscular fixation and not of a peritoneal suspension.

Mr. W. GOUGH agreed that many patients with retro-displacements were symptomless. If a patient were told of the retro-displacement, a vicious circle might be set up. Briefly his practice was: If no symptoms, leave alone; if symptoms were present, he curetted the uterus and replaced it. If the displacement recurred the uterus was replaced and a Hodge pessary inserted for two to three months. If the patient was thereby relieved, nothing further was done, but if her symptoms, &c., returned, then he operated. He had done all types of operation except the absolute fixation and found them all equally successful.

Mr. ROBERT A. HENDRY read the conclusions abstracted from the opening report on the indications for

Surgical Intervention in Retrodeviations of the Uterus Apart from Pregnancy,

presented to the Congress of the Association of French-speaking Gynæcologists and Obstetricians, Geneva, 1923. These were that surgical intervention in uterine deviations, apart from pregnancy, was indicated as follows: (1) In retrodeviations accompanying uterine, ovarian, or parovarian tumours in so far as these tumours did not necessitate the sacrifice of the uterus, the pexy was a complementary operation. (2) In fixed, painful retrodeviations. (3) In fixed retrodeviations accompanied by appendage lesions, unilateral or bilateral, which had resisted medical treatment. If the appendage lesions were such that they required ablation it might be necessary to practise total or subtotal hysterectomy; if such were not the case, the uterine pexy was only a complementary operation. (4) In painful, mobile retrodeviations surgical intervention was only indicated if, when the uterus be replaced, the painful phenomena disappeared. In other cases the pains arose: (*a*) From hysterical and similar states; (*b*) from multiple visceral ptoses. (5) In certain rare cases of obstinate sterility where no other apparent cause could be discovered. (6) In retrodeviations accompanied by repeated abortion where searching examination eliminated the possibility of syphilis. (7) In all cases where, in addition to the retrodeviations, one found a tendency, even if slight, to prolapse with or without perineal lesions. If the perineum were damaged the pexy ought to be preceded by careful vagina-perineal repair. (8) Painless mobile retrodeviations did not require any treatment.

The discussion was then adjourned until the next meeting to be held at Sheffield, on Friday, Nov. 21st.

At the commencement of the meeting Prof. BLAIR BELL described two cases, one of manual perforation of the puerperal uterus, followed by recovery, and the other of thrombo-phlebitis of the right ovarian vein associated with abscesses in the uterine wall.—Mrs. DOBBIN CRAWFORD described a case of primary carcinoma of the vagina.

INFANT HYGIENE, ANCIENT AND MODERN.

Abstract of a Lecture at the Instruction Course for Teachers of Midwives, Midwives' Institute.

Dr. H. K. WALLER, lecturing on the above subject in the rooms of the Royal Society of Arts on Oct. 30th, said that one way of approaching it was for enthusiastic welfare workers to enumerate everything modern and call it good, everything ancient as unenlightened and worthless. That clearly would not do. It was difficult for us to picture conditions surrounding infancy in ancient days. Natural selection must have worked surely and ruthlessly in many ways where it was now tempered by more tender social concern. It was certain that throughout all ages there had been no failure in the demand for passionate maternal devotion. The studies of anthropologists showed us that in primitive tribes, where we found the nearest likeness to prehistoric conditions, the task of motherhood was an intricate and exacting profession. So it must always have been, and so it was to-day. For workers in infant welfare there was a stimulus in the fact that of recent years the infant had come in for a wealth of close and scientific study. The speaker traced briefly the history of hospitals, pointing out that hospitals for the wage-earner's wife during the time of childbirth and lying-in antedated by a long while any hospital provision for sick children. One of the oldest children's hospitals in London owed its origin to the revolt of its founder from the rules of the general hospital where he was trained, and where he repeatedly fell foul of the authorities for smuggling children into its wards. Dr. Waller hoped that some surgeon would call attention to the claims of the infant whose mother needed admission to hospital for the treatment of a mammary abscess during the early months of lactation. In many instances breast-nursing could be saved, or re-established after a short interval. But it was still exceedingly difficult to obtain the simultaneous admission of the infant with its mother. The child had to find a hasty shelter, sometimes in most unsuitable quarters, and fell ill, often seriously ill, as the result of a sudden change to unskilled and unsuitable artificial feeding.

It was suggested that we must recognise a certain inherent reluctance on the part of scientists to interest themselves in the habits and needs of the very young child. The human father, like many fathers in the animal world, was somewhat ill-equipped with sympathetic feelings towards his offspring, at least until the awkward inarticulate stage of infancy had been passed. The potential father in the scientist and doctor was, he suggested, not a little responsible for this lack of interest. Dr. Waller went on to say that we could not over-estimate the importance of the craft necessary to be a successful mother or nurse of young children. Good mothers, of which there was happily always a large preponderance, were not often able to impart by means of simple doctrine the essence of their skill. Its acquirement needed beyond all things a patient apprenticeship, and he emphasised the advantage held by women who had themselves to mind children over those who employed others to do it for them. Among the well-to-do the first-born quite often found its mother completely unprepared, devoid of knowledge or practice. In the poor classes the girls were often responsible nurses at the age of 7, and still minding babies when grannies of 70. Neither case was ideal; in the latter the burden was often too heavy. But no one could doubt it frequently produced a degree of skill seldom seen in the former. The lecturer implied no disparagement in mentioning this contrast, but he referred to it because of a somewhat frequent tendency to blame the poor collectively for a lack of skill in upbringing, even a lack of concern for their infants. No infant welfare worker of any experience and powers of observation would subscribe to that view.

Methods of Feeding.

Turning to differences between ancient and modern methods of feeding, the most arresting had been the development of accurate means of artificial feeding. In primitive times lack of success in breast-nursing spelled death for the infant—unless exceptionally it was reared by a foster-mother. Latterly succour by the cow had become so common as scarcely to call for comment. But we were realising the pitfalls in this policy. Despite all the achievements of the chemist, the safety of the successfully breast-fed child was becoming more and more a conviction of physicians. Bottle foods were becoming what they should always have been recognised to be, an invaluable means of saving life in exceptional instances; often a most useful adjunct to, but certainly no general substitute for natural feeding. The superior resistance to illness possessed by the naturally fed baby was too clear to be ignored. Here we were seeing a reversion from modern to ancient customs. The technique of breast-feeding could now be studied and developed in ways that were yielding valuable results. The use of accurate scales is a modern improvement. We had now a means of reducing to measurement what had previously been a matter of guesswork. Nurses and mothers must become proficient in the use of the balances. The speaker held that for the proper understanding of an infant's progress scales which weighed to half an ounce were as necessary as was a clinical thermometer in the supervision of a patient with fever. The objection that the systematic use of scales by a nurse when attending a normal obstetric case would tend to lessen the importance of clinical observation, he considered a poor one. She had at her service an invaluable means of ascertaining that the most important function of the infant was proceeding normally. It was almost her only means of correcting errors of feeding. For the lack of this a great variety of mistakes had crept in and been perpetuated in infant management. In no sense could the means of accurate feeding be said to diminish responsibilities in other directions. As examples of the method details were given of work at an infant clinic. A room was set aside for experimental feeding, and a nurse with special experience placed in charge. To her were referred from the weekly consultations a number of infants, the details of whose progress she recorded. Notes were made of the variation in the yield of the mother's milk at different times of the day, of differences in the yield of the two breasts, of the ease with which the milk was obtained, of the child's behaviour while feeding, of the loss of food sustained by vomiting, and so forth. These notes were returned to the clinic and formed an invaluable aid to the physician when he had to give advice to the mothers.

Referring to dietetic customs at the period of weaning and in the second year of life, Dr. Waller believed there was a danger in imposing on a healthy baby a diet which, from its impressive results in hospital wards when applied to weakly and wasted infants, had crept into the nursery. The essence of this diet was a large preponderance of easily assimilated carbohydrate, and a lavish supply of milk. Here once more it was well worth our while to study the customs of the skilled mothers among the classes where large families prevail. We should find the weanlings' diet far less invalid in type; often indeed it appeared startlingly robust in character. Milk tended to drop out quite early, and the common food of the adult to replace it. Were it not so often spoiled by an undue indulgence in sweets and chocolates, this diet appeared to suit the normal infant well. After commending the excellent modern type of loose-fitting wool clothing which was replacing the cumbrous wrappings of olden days, the importance of safeguarding the infant from catarrhal infections was mentioned. An example was given of an affectionate relative with a pneumococcal abscess in her antrum infecting a new-born child, with all but fatal results. The prevalence of infective catarrh of the nasal passages is one of the grave dangers to which babies are subject. The opinion was expressed that many cases of conjunctivitis in the new-born were secondary to nasal infection, and that their prevention and cure was advanced by suitable disinfection of the infant's nose.

An important aspect of infant management had developed from the recent advances made in our understanding of the baby's psychology and its nervous disorders. The writings of Cameron on this subject contained brilliant and fascinating suggestions and had shown the importance of arranging a calm and suitable environment for the child.

In conclusion Dr. Waller referred to the accusation sometimes made that much in our modern ways of infant supervision received the contempt of the older school. The veterans who boasted that in their hardier and wiser generation they had no need of these things might act as a useful check on methods that were iconoclastic. But were the veterans infallible? Were past generations always so successful? He quoted a memorial in a village church. It seemed to have been designed to commemorate impressively the death of "William, the first-born child of Sir Wm. . . . Bart, who died, poore chylde, Oct. 16th, 1672, aged 11 months." The inscription was cut large in the centre of the marble slab. But beneath it, and above it, and around it in smaller and smaller type as the space diminished, had been added the doleful record of William's brothers and sisters. Richard, John, Henry, Emma, Jocelyn, Mary, and a second William all followed in hapless succession; the 3rd, 4th, 5th, 7th, 8th, 9th and 11th children, their ages ranging from a few weeks to 14 months. There may have been later survivors. But of the first 11, 8 had perished in infancy: a mortality of 72 per cent. The baronet's lady might have profited and the tablet been less crowded had she been able to attend an infant welfare centre such as the twentieth century had seen arise.

Rebiews and Notices of Books.

PROCTOLOGY.

Diseases of the Rectum, Anus, and Colon. By SAMUEL GOODWIN GANT, M.D., LL.D., Professor and Chief of Department for Diseases of the Colon, &c., Broad-street Hospital, New York City. London and Philadelphia: W. B. Saunders Company, Ltd. In three volumes. Pp. 543, 545, and 528. £6 6s. the set.

Dr. Gant's exhaustive treatise in three volumes on rectal and colonic ailments is before us, but the author himself has passed away, leaving this record of a great achievement. The reader cannot fail to grasp Dr. Gant's technical methods for there are 1138 illustrations to the text, many of them semi-diagrammatic and all of them clear. The chapters dealing with abscess and fistula are well and profusely illustrated, and the author's experience of the latter is evidently exceptional, for he has operated on 5000 patients, which corresponds roughly to the number of cases dealt with at St. Mark's Hospital for Fistula over a period of about 30 years. The division operation is preferred to the excision method and both methods are well discussed; the author, contrary to the accepted view, considers that better results can be obtained by not confining patients to bed after operation.

Dr. Gant prefers the operation of ligature for hæmorrhoids which he conducts under local anæsthesia, and confines his patients to bed for only three or four days. Prior to the use of local anæsthesia he gave preference to the clamp and cautery operation. He believes that when recurrence occurs it follows ligature, clamp, and cautery, and the Whitehead operation with equal frequency, but also states that a permanent cure nearly always follows all three

operations. With regard to injection treatment he holds that it is not uniformly curative, nor does it always temporarily arrest bleeding or protrusion, and that it is best suited for moderate-sized bleeding and protruding piles and should never be employed when hæmorrhoids are large, inflamed or ulcerated; he states that "when the injections go wrong the patients suffer a great deal more than if they had undergone the radical treatment."

A high percentage of cures is claimed in operations for cancer of the rectum. In discussing the operative technique of carcinoma of the rectum the author describes a perineal operation in which he brings down the upper end as an anus after removal of the sphincters, and other methods from below in which he retains the sphincters with or without removal of a portion of the sacrum. Those who practise excision from below in this country are for the most part agreed that it is desirable to perform a preliminary colostomy, to remove the rectum entire with its sphincters, and to close the upper cut end, aiming at a thorough removal and a clean wound. When operating through the abdomen the author prefers the abdomino-anal method to the abdomino-perineal, though he resorts to preliminary colostomy in obstructive cases. Few, if any, surgeons in this country now practise the abdomino-anal method in preference to the abdomino-perineal. With the statement that "an artificial anus is unnecessary in the treatment of colonic and sigmoidal cancer unless growth is inoperable" we cannot agree. Diverticulitis, constipation, obstipation, intestinal stasis, and coprostasis occupy a large portion of the third volume; some remarkable operations for their relief are described, as, for example, the method of colopexy on p. 258, and little or no information is given as to their results.

We consider that the book would be improved in a future edition if less heavily weighted with material that has but a remote bearing on the subject—e.g., an account of spina bifida. The chapter on examination of the intestinal tract, again, deals with test-meals, the odour of fæces, the pathology of the urine and blood, and even includes an illustration of a diaphragmatic hernia. The following passage occurs: "Rectocolonic tubercular ulcers and tumours are often mistaken for bacillary, luetic, amœbic, and balantidic colitis, inflammatory growths or gummata, and to clear up the diagnosis in doubtful cases patients may be submitted to a tuberculin test." The author is convinced that splitting the anal canal "including division of the sphincters, fibres of the levator ani muscle . . . . by a bold stroke with the author's razor blade bistoury well up into the rectum," is the best operation for fissure, and by this method he has cured over 1000 cases. Rectal surgeons in this country would shrink from this heroic procedure. Indeed, throughout the book we find ourselves in frequent conflict with the author's pathological views and methods of treatment. But it is of great interest to learn the views of our distinguished colleagues in America, and we recommend a study of the book to proctologists in this country as a stimulating exercise.

A Treatise on the Diseases and Injuries of the Rectum, Anus, and Pelvic Colon. By J. RAWSON PENNINGTON, M.D., F.A.C.S., Proctologist to Columbus Hospital, Veteran's Hospital No. 30, and U.S. Marine Hospital. Philadelphia: P. Blakiston's Son and Co. 1923. With two plates and 677 illustrations. Pp. 933.

THE author dedicates this volume to the memory of some of his early teachers, Herbert Allingham, Alfred Cooper, David Goodsall, Charles Boyd Kelsey, and the volume contains portraits of many distinguished surgeons. Some idea of the scope of this work may be gathered from the fact that 46 pages and a like number of illustrations are devoted to the anatomy of the rectum, which is described in an attractive manner. Imperforate anus is well discussed, and it is interesting to note that in a summary of 223 cases operated on by various methods and collected from various sources only 16 reached adolescence and but 13 passed the adult age; it must be presumed that most of these were afflicted with either a colostomy or an incontinent anus. Gunshot wounds of the rectum are considered in the light of experience gained in the late war; this chapter might be improved in a future edition if gunshot wounds involving the rectum were considered under two headings: (1) those which penetrate the peritoneal cavity, (2) those associated with buttock wounds without involvement of the peritoneal cavity. We agree with the author when he advocates "excision" of fistula in ano, but it should be made clear that the method is only suitable for a limited number of cases; treatment by the ancient method of "string constriction" should not, we think, be encouraged. Mr. Pennington has come to the conclusion that the best operation for hæmorrhoids is the "open" method, which, he states, "consists in excising sufficient of the covering of the varicosities, so when the pathologic condition is removed the operated field will resume its normal state and relation to the contiguous parts." It is not clear from the text that the "open" method is an improvement on the present-day method of ligature and excision. We do not agree that "there is considerable risk of secondary hæmorrhage" after clamp and cautery. It is satisfactory to see that adenomyomata involving the rectum are referred to. These tumours have in the past, no doubt, often been mistaken for carcinomata, and it is important that they should be recognised, because they can be cured, in the early stages at any rate, by radium, and a severe operation is thus avoided. In discussing the operative technique of carcinoma the author describes various methods of excision without committing himself to a definite preference. The abdomino-perineal method is described but not the modern perineal excision after preliminary colostomy by the method used at St. Mark's Hospital, which now has so many adherents in this country. Diseases of the pelvic colon are considered separately at the end of the volume and are well discussed, especially megacolon and diverticulitis. A complete bibliography is attached to each chapter, the value of which is increased by an index of the names of the authors referred to (about 1300) with page references.

In the interesting historical introduction the royal bistoury used to operate on Louis XIV., in 1687, is depicted. The fees for the surgeon and his assistants on this occasion were truly royal, amounting to $73,000.

As a work of reference this book will prove of great value to proctologists, and as a text-book for the practitioner it should be more than sufficient. It is well printed and profusely illustrated.

OPERATIVE DENTAL SURGERY.

Second edition. By J. B. PARFITT, L.R.C.P., M.R.C.S., L.D.S., Dental Surgeon and late Lecturer on Operative Dental Surgery to the Dental School of Guy's Hospital. London: Edward Arnold. With illustrations. Pp. 342. 21*s*.

MUCH has been written on the subject of operative dentistry, but we do not know of any other book which bears so authentic a touch as this. It is practical in the sense that every page is evidently derived from personal experience. There is no section dragged in for the sake of completeness and obviously written up for the occasion. The chief changes in this edition are to be found in the chapters on cavity preparation and pain saving. The section on cavity preparation is extremely good, and covers the ground very completely. The chapter on pain saving contains some useful matter, but also reveals the gap in dental technique. Painless dentistry is not yet a possibility, in spite of various much-lauded methods. Mr. Parfitt advocates the use of local anæsthesia for

abolishing sensation in conservative dentistry. Often it succeeds, yet there are cases in which it is unavailing. In some cases a satisfactory anæsthesia may be produced in this way, but an obstinate tenderness of the tooth may follow, which rather discounts the patient's gratitude for a painless operation. Mr. Parfitt rightly lays stress on the evil of using too much adrenalin. There can be no doubt that many of the toxic symptoms which occasionally follow the use of novocaine are really due to the adrenalin incorporated in the tablets. Perhaps the most suggestive chapter in the book is that on "Infection and Cleanliness." It is quite short, but every word tells. So much craftmanship enters into dental operations that there is a tendency to view dentistry from that standpoint and to overlook the fact that operative procedures may open up many loopholes for infection of the dental tissues. The rigid standards of cleanliness essential in surgery are not practicable in dentistry, and some compromise is necessary. The technique which Mr. Parfitt has elaborated in this book represents a practical possibility open to every dentist practising under average conditions. It may not be absolutely watertight, but there can be no doubt that its adoption would eliminate many cases of dental infection which have supervened upon operative measures upon the teeth.

FAR EASTERN ASSOCIATION OF TROPICAL MEDICINE.

Transactions of the Fifth Biennial Congress, held at Singapore, 1923. By A. L. HOOPS, M.D., and J. W. SCHARFF, M.B. London: John Bale, Sons and Danielsson, Ltd. 1924. Pp. 974. 40*s*.

SOME idea of the activities of tropical workers in the Far East may be obtained from a perusal of an informative and imposing volume edited by Dr. A. L. Hoops, P.M.O., Straits Settlements, and his able assistant, Dr. J. W. Scharff, who also acted as the hon. secretary of the congress. The book is handsomely got up, and contains information which must have required a considerable amount of energy to collect and still greater patience to edit, as it comprises some 78 papers. The writers of these papers, which were read at the congress, hailed from China, Japan, Formosa, the Dutch East Indies, French Indo-China, the Philippines, Borneo, as well as from India, Hong-Kong, Shanghai, the Malay States, and Straits Settlements. The cosmopolitan character of the congress well bears out the theme of the introductory address of welcome by the Governor of the Straits Settlements, that in the theatre and laboratory "there is neither East nor West, border nor breed nor birth." In his presidential address on the prevention of disease in the tropics Dr. Hoops referred to the activities of previous congresses and the benefits which had accrued therefrom. A gap of eight years in the meetings had resulted from the late war.

The opening address on malaria, by Sir Malcolm Watson, is followed by a number of papers by Wellington, of Negri Sembilan; by S. C. Howard and V. A. Stookes, on malaria control on rubber estates in Malaya and in Sarawak respectively; E. W. Walch writes upon malarial epidemics caused by *Anopheles sinensis;* W. B. Doovenbros, on sanitation on rubber estates in Sumatra. M. Koidzumi describes the anophelines of Formosa. S. R. Christophers, the well-known authority on malaria, has a thoughtful article on measurement of the enlarged spleen, and Yas Kuno, of Mukden, discusses the same subject. A paper of special merit on the treatment of dementia paralytica by malaria is by F. H. Van Loon and Dr. L. Kirschner, of Batavia. From this it appears that the disease is relatively uncommon, and that native patients usually are absolutely immune to benign tertian malaria. The aspect of malaria to mental disease and tropical neuroses (amok and latah) peculiar to Malaya, the latter by R. D. Fitzgerald and Sir D. J. Galloway, deserve especial mention. A. T. Stanton discusses measures for control of beri-beri in the Far East. Dr. Wu Lien-Teh has much to tell of plague in wild rodents and the tarabagan—a fine record of original work.

There are numerous contributions on dysentery, the pseudo-typhus of Sumatra, the treatment of leprosy, spirochætosis icterohæmorrhagica, examination of the liver by X rays, &c. Enough has been said to demonstrate the value of the work accomplished. Every practitioner in the tropics would do well to keep it on his shelf.

THE TRANSPIRATION STREAM.

By HENRY H. DIXON, D.Sc., F.R.S., Professor of Botany in the University of Dublin. London: University of London Press, Ltd. 1924. Pp. 80. 2*s*. 6*d*.

THIS little book contains a reprint of three lectures on the transpiration stream delivered, at the invitation of the Senate, before the University of London; in it the author summarises the present position of the cohesion theory of the ascent of sap. To those readers who are unfamiliar with his earlier publications on this subject the present account will hardly be sufficiently explicit, but the advanced reader will find here reference to recent work on the subject, together with Prof. Dixon's views on the significance and interpretation of this work.

EAR, NOSE, AND THROAT NURSING.

By J. HARDIE NEIL, M.B. (N.Z.), M.R.C.S. Eng., Ear, Nose, and Throat Surgeon, Auckland Hospital, New Zealand. London: H. K. Lewis; Auckland: Clark and Matteson. Pp. 31.

Mr. Hardie Neil has written these practical notes for the benefit of senior nurses, and as a guide to the general routine of the department which may, in parts, be of assistance to resident medical officers. The book is divided into sections on the ear, nose, pharynx, œsophagus, and larynx, each of which begins with a short description of the anatomy, and continues with an account of examination methods, of the common forms of disease, and of the more important operations. Nurses are told what complications to expect, what to do in cases of emergency, and what instruments to prepare for operation. There are some useful anatomical drawings and good illustrations of the patient's position for examination and operation. Apart from a few small slips, the little book is well and carefully written, and should be very useful within its size and scope.

THE CARE OF THE BABY.

Seventh edition. By J. P. CROZER GRIFFITH, M.D., Professor of Pædiatrics in the University of Pennsylvania. London and Philadelphia: W. B. Saunders Company. 1924. Pp. 478. 12*s*. 6*d*.

THIS book, described as a manual for mothers and nurses, contains a number of practical directions for the management of infants and children in health and in disease. It has naturally undergone a considerable amount of revision since its first publication in 1895, and the present edition, the seventh, has been brought well abreast of the teaching of to-day. Among the formidable array of volumes written for the guidance of mothers, Prof. Crozer Griffith's book takes an honourable place and well deserves its sustained popularity. It is very much more readable than are most books covering the wide range of topics connected with the care of infants and children, partly, no doubt, because it is not broken up into short sections. The hygiene of pregnancy is discussed in the first chapter of the book, succeeding chapters being devoted to details of the infant's growth, toilet, clothes, food, sleep, exercise, and training. The last section of the book, consisting of 150 pages, is devoted to the sick baby; this section, which is particularly well done, has been written especially for those mothers who are unable to obtain medical aid in an emergency. An appendix has been provided containing

various recipes for food and medicine, as well as directions for the preparation of different kinds of baths, poultices, disinfectants, and so on. These are given in sufficient detail to enable any intelligent woman to follow them with ease. In a few instances the author's teaching is at variance with that of most pædiatrists in this country, such as the statement that during the first three months of life seven to ten feedings should be given in the 24 hours, including one or two night-feeds; or the advice that a meal should be given between 9 and 10 P.M. to a child of 12 to 18 months. These are small blemishes, and the book may safely be recommended to all who have the care of infants.

What Every Mother Should Know. Second edition. By CHARLES GILMORE KERLEY, M.D. New York: Paul B. Hoebner. Pp. 103. $0.50.

THIS little book is designed by its author to serve as a ready reference for busy mothers with regard to the care of their children, its purpose being "to place in the hands of the mother of moderate means concise, readily understood, and practical instruction." The teaching given in the 13 chapters of the book is simple and elementary, and most of the questions are dealt with on which a mother is likely to need instruction. The only points on which English physicians would be likely to differ from the author are the advocacy of a night-feeding during the first three months of life, and the undue importance given to constipation—i.e., infrequent stools—in a breast-fed baby. Where a breast-fed infant is steadily gaining weight and the motions passed are normal in colour and consistence, the actual number of stools passed in the 24 hours really matters little. A useful feature of the book is the interleaving with blank pages for notes.

AN OUTLINE OF MEDICAL TREATMENT.

Grundriss der Klinischen Therapie Innerer Krankheiten. Zweite Auflage. Von. Prof. Dr. GEORG KLEMPERER, Direktor der IV. medizinischen Universitatsklinik; arztl. Director des Städt. Krankenhauses Moabit in Berlin. Unter Mitwirkung von Oberarzt Dr. L. DUNNER. Berlin: Urban and Schwarzenberg. 1924. Pp. 268. Sch. fr.6.25.

THAT a second edition of this book has already been published is a tribute to its popularity in its country of origin. It is a short treatise on clinical therapeutics and is doubtless of value to the busy German practitioner. To the English reader its only appeal can be as an index of accepted common methods in a foreign country. An appendix gives a list of useful German prescriptions.

JOURNALS.

BIOCHEMICAL JOURNAL. Vol. XVIII., No. 5.—The first paper, by H. W. Southgate, on the Dietetic Value of Barley, Malt, and Malted Liquors as determined by their Vitamine Content, will prove of interest to those engaged in liquor controversies, since it is shown that, although barley and malt contain large quantities of water-soluble B, beer possesses very little of this vitamin.—The mechanism by which a dead fœtus is removed in utero has been studied by C. N. H. Long and A. S. Parkes. In their paper, entitled On the Nature of Fœtal Re-Absorption experiments, are described from which it would appear that the fœtus is dissolved by its own autolytic enzymes, and that the process is not one of putrefaction, nor are the enzymes derived from the uterus.—A series of papers deal with methods. These include: A Colorimetric Method for the Direct Estimation of Ammonia in Urine, by A. P. Orr. The method depends on the colour produced between ammonia and phenol in the presence of sodium hypochlorite.—Estimation of Sugar in the Blood, by E. G. B. Calvert. The author replies to criticisms on his original modification of the Folin-Wu method, and describes further alterations which obviate the necessity of a torsion balance.—A Method for the Estimation of Iron in Small Quantities in Biological Substances, by M. M. Murray. The iron is estimated, after ashing, by means of N/80 $KMnO_4$. The introduction of a reductor, composed of cadmiumised zinc, is the original part of the method.—Note on the Estimation of Uric Acid by the Hopkins-Folin Method, by R. C. Garry. The author describes an ingenious method of performing a "blank" control, and other methods designed to overcome the difficulty of appreciating the end-point.—Method of Estimating Minute Amounts of Iodine in Biological Material, by F. C. Kelly and A. D. Husband. This paper contains a brief review of the methods in use at present, together with the description of a modified technique.—A Colorimetric Method for the Estimation of Sugar in Blood, by F. J. Paton. The author suggests that the colour given by glucose and 3–5 dinitrosalicylic acid as the basis for the new technique.—A Critical Study of the Methods of Estimating Cholesterol and its Esters in Tissues, Part II., by J. A. Gardner and F. W. Fox. This paper deals with possible fallacies and the mode of extraction of cholesterol from the tissues.—Perhaps one of the most interesting communications is that by P. T. Herring, J. C. Irvine, and J. J. R. Macleod, called the Efficiency of Various Sugars and their Derivatives in Relieving the Symptoms caused by Insulin in Mice. The experimental work on the animals was performed by Prof. Herring, whilst the sugars employed were made and purified by Prof. Irvine. The results are commented upon by Prof. Macleod. There can be no doubt that this is one of the most exact pieces of chemical research performed on the subject. The general conclusions arrived at were that only those sugars easily fermented by yeast are most efficient in the treatment of convulsions—i.e., glucose and mannose. Fructose is nothing like so efficient, and acts in a temporary manner. Galactose is even worse than fructose. Maltose is slow in action, whilst lactose is without action. Various other substitution compounds were also tried.

The Conduct of Medical Practice.

A Series of Articles by Experts dealing with the Difficulties Encountered in Professional Life and How to Meet Them.

XXII.—"LOCK-UP" SURGERIES.

BY HAROLD S. BEADLES, M.R.C.S. ENG.,
CHAIRMAN OF INSURANCE COMMITTEE AND SECRETARY OF PANEL COMMITTEE, WEST HAM.

THE system of medical attendance and treatment under the National Health Insurance Acts has of recent years brought prominently before public notice the question of the provision of what are generally known as "lock-up" surgeries. Of course, the use by medical practitioners of these "lock-up" or "branch" surgeries prevailed long before the Insurance Acts were thought of. They owed their origin primarily to the recognition by practitioners of the desirability of providing facilities whereby their personal services could, at specific times in the day or at call, be brought nearer to the homes of their patients.

Rural Needs.

In the case of sparsely populated and extensive rural areas, where the inhabitants live in villages and isolated hamlets, there is no doubt whatever that the existence of a lock-up or branch surgery has been, and is still, a necessity, and can be said to furnish the only satisfactory arrangement. Resident medical

practitioners must necessarily be few and far between in such areas; and those who use the surgeries have to spend much time in travel from their homes to their patients. They must, of course, reside as near as possible to the centre of their practices so as to render themselves more readily available day and night to the greater number of their patients. Consequently some form of non-residential provision for the more distant areas of these practices becomes essential. This applies with equal force to the private and insurance sides of general medical practice.

With the present-day extension of the telephone service, communication between such surgeries and the doctors' private houses has become much easier. Delay in establishing communication with a practitioner in emergency must inevitably result in danger to the patient and dissatisfaction to the doctor himself. A practitioner having voluntarily established a lock-up or branch surgery imposes upon himself, therefore, the moral obligation to provide adequate attendance and treatment thereat and therefrom. While it is conceivable that the establishment of a lock-up or branch surgery in or near an outlying village would reduce unduly the extent of the practice available to a doctor resident in that village, with the consequent risk of making it impossible for the resident practitioner to derive an adequate living from the remaining portion of the population, nevertheless action for the prohibition of such an establishment should not be lightly undertaken, because it might tend to restrict in some degree free choice of practitioner by patients, and also to militate against the best interests of the medical service of the area generally.

This phase of the subject is recognised in National Health Insurance practice, as is evident from the following reference thereto in the mileage schemes adopted by some insurance committees:—

"Provided that, in cases where the practitioner (or any partner of his) has a surgery which is nearer to another practitioner's residence than it is to his own, the credit (i.e., for mileage grant) shall be based on the distance from that surgery to the residence of the insured person."

In other words, this means that if practitioners in rural areas open lock-up or branch surgeries in outlying districts where other practitioners reside, they cannot always expect to receive credits for mileage measured from their own residences to the homes of patients residing within the vicinity of such surgeries.

Urban Needs.

In the case of more thickly populated urban areas and towns the need for the lock-up surgery system is not so apparent, at least from the point of view of the public. Generally speaking, the residences of practitioners in such areas are so placed as to be within a mile or so of their farthest patients and the number of practitioners resident within a small area is much greater. The incentive to establish a lock-up surgery in such an area cannot therefore be regarded on the same plane as in the case of rural practice. Here the convenience of the patients does not appear to be the primary consideration. Extension of practice, the desire for improved residential environment, the dearth of residential accommodation in building up a new practice—these would appear to be the governing factors.

Now while the desire to extend a practice is quite legitimate in its way, it should not be permitted to dominate the best interests of the patients needing advice and treatment and of the other practitioners resident in the district. But the wish for improved residential surroundings, especially in a number of areas of this country, is perfectly comprehensible. The extraordinary thing is that some of the urban areas should enjoy a resident practitioner at all. Persons with the nurture and training of a physician need considerable courage in addition to their other gifts in order to spend the best years of their lives in the squalid surroundings presented by some of these districts. The prospect for the wife and family of such a practitioner is far from alluring. The charge has been levied that, the Insurance Acts having provided a well-assured income in respect of the treatment of the poorer classes, practitioners and their families have migrated to more salubrious surroundings during their hours of rest and recreation. If there were any truth in this charge the difficulty has been well met by the action of the responsible authorities under powers conferred by the provisions dealing with surgery accommodation in the Medical Benefit Regulations. Yet granting the conditions of some of our town areas practitioners can hardly be blamed for taking the earliest opportunity of improving their lot in respect of living accommodation and environment.

Drawbacks and Safeguards.

The establishment of a lock-up surgery by a medical man or woman commencing practice in an urban or town district is, however, least worthy of approval at the present time, notwithstanding the prevailing shortage of housing accommodation, and should not be recognised for insurance purposes unless the practitioner lives within easy distance of the surgery provided, and unless his services at and from the surgery are as readily available at all times as they would be if it were situated at his place of permanent residence.

Whatever the motive for the inauguration of a lock-up surgery may be, and whether it be intended for the use of private patients or insured persons, such an establishment cannot serve the best interests of either the medical profession or of the sick public unless adequate facilities are provided thereat for calls upon the practitioner's service at any time of the day or night by the employment of a caretaker and the provision of a telephone. Efficient safeguards must also be effected against the possibility of the other practitioners resident in the district being burdened unduly with the absent practitioner's responsibilities.

Some of the less friendly critics of the State insurance medical service have, from time to time, pointed to lock-up surgeries as evidence of the alleged unsatisfactory provision made for the medical needs of the insured members of the community. In a few cases such criticism may be justified in relation to a very small number of insured persons, but no sweeping indictment of the service on this account can be substantiated. It may truthfully be said that the establishment of the service has rendered obligatory upon all the contracting practitioners the provision of many of the good features which existed in well-conducted private practices in pre-insurance days. With the passage of time the administrators of the Act have had opportunities for comparison, from which has resulted the endeavour gradually to raise by legislation the standard in every direction, including surgery accommodation.

In the last issue of the terms and conditions of insurance medical service it is laid down that a practitioner is required to provide proper and sufficient surgery and waiting-room accommodation for his patients, having regard to the circumstances of his practice. The form of words used here is very wide in its application and embraces the obligation to provide, if necessary, a lock-up or branch surgery, equally with the abandonment of such a surgery if, in the opinion of the authorities, circumstances demand it. It is known that some practitioners own branch surgeries which they work wholly through permanent assistants. Rarely, if ever, do they put in an appearance or answer calls from patients accustomed to use such surgeries in the belief that their treatment is under the supervision of the principals whose names appear on the door-plates. These may be characterised as among the worst forms of lock-up surgeries and might well, in certain conditions, give rise to the suggestion of practising under misrepresentation.

THE LANCET.

LONDON: SATURDAY, NOVEMBER 8, 1924.

DOCTRINAIRISM IN MEDICINE.

THE trial of REX *v.* HADWEN has been one of profound interest to the public and to the medical profession, but its significance can only be really understood if the issues are made clear. There are temptations to regard the case as an attempt to persecute, in accordance with an extreme doctrinairism, a qualified practitioner for holding unorthodox opinions; it really was an inquiry into certain circumstances in the clinical conduct of a case, to decide whether there had been negligence, and, if so, whether that negligence amounted to manslaughter. At the Gloucester Assizes Dr. W. R. HADWEN was acquitted by a jury on a charge of manslaughter arising out of the death of a patient. Such a charge is rarely brought against a medical practitioner, and it is for every man and woman to consider the circumstances under which such a charge was brought and what is the sequence of events when such a charge is heard. To enable them to do so a verbatim report of the evidence and of Mr. Justice LUSH'S summing-up is given in a Special Supplement to this issue of THE LANCET. Dr. HADWEN was acquitted of manslaughter. It is necessary to look closely at the implications of his acquittal.

Dr. HADWEN was acquitted because, holding the views that he did, his conduct did not amount to wicked negligence. It was not enough for the prosecution even to prove that, had the doctor been careful, the patient would have had a chance of survival. The jury were directed that only if negligence were of so gross a character as to make it wicked negligence would it amount to manslaughter. The verdict did not decide whether the child did or did not die of diphtheria. The jury were not asked to formulate a conclusion as to this, which is only one of the many points on which medical men will like to form their own conclusions after a careful study of the whole of the evidence. The jury were not asked to say whether Dr. HADWEN'S views on the treatment of diphtheria were those of a wise medical man or not. "You are not here," said Mr. Justice LUSH to the jury, "as a tribunal to criticise his views." It will be seen that the prosecution set themselves a difficult task in endeavouring to secure Dr. HADWEN'S conviction upon an indictment for manslaughter, however undesirable the treatment of his patient might appear to other members of his profession. The jury were, in fact, not asked to comment on the scientific issues which were at stake or to assess the danger to society of a medical man who holds the views revealed at the trial, in the light of scientific knowledge as it stands to-day.

We are still at liberty to do both these things. Belief in the value of diphtheria antitoxin is universal among bacteriologists and to the medical profession as a whole the evidence is conclusive that antitoxin saves life in cases of diphtheria in direct proportion to the earliness at which it is administered. Medical officers in charge of fever hospitals hold that antitoxin administered early would have saved the lives of a large proportion of diphtheritic cases admitted moribund to these hospitals. Dr. HADWEN thinks otherwise. He is bound by views expressed in public that diphtheria comes and goes quite independently of antitoxin and that the only change which antitoxin can produce in any case is for the worse. In 1917, writing of the Registrar-General's statistics, he remarked that in spite of the rigorous antitoxin inoculation for the last twenty years, the "bacteriological necromancers" had failed to bring down the death-rate to what it was twenty years before the date in question. We are not here concerned with Dr. HADWEN'S use of figures, but only with the opinion he holds on the value of antitoxin. Opinion in regard to methods of treatment founded on theories of bacterial causation is, doubtless, not uniform throughout the medical profession. In therapeutics, as in politics, there is an extreme Right which clings to time-hallowed views and an extreme Left which may be provocatively in advance of ordinary practice. Both extremes lay themselves open to charges of malpraxis; the Right, in that they have not applied to a sick person the knowledge which medical science claims to have at its disposal; the Left, in that they are interfering with the liberty of the subject by employing protective methods not universally regarded as advisable. It will be recognised that the doctor is susceptible in ordinary degree to human frailty and human prejudice, and no one demands of an elderly practitioner the same degree of physical activity or mental alertness that is shown by his junior—wants which may be compensated by maturer judgment and better knowledge of the world. But where a medical practitioner's view in a vital question comes into conflict with that of the vast majority of his professional brethren, he has the alternatives of sinking his own judgment or of having his conduct reviewed in open court.

THE PROPHYLAXIS OF DIPHTHERIA.

ALL who are interested in the question of the prophylaxis of diphtheria and its application on a large scale in this country will find much useful information on the subject in the admirable report to the League of Nations by Dr. LOUIS VAN BOECKEL,[1] the Director of the Laboratory of the Belgian Health Department. After an exhaustive summary of the history, technique, significance, and practical applications of the Schick test, the author comes to the conclusion that "it is a sure and practical method of determining susceptibility to diphtheria." Admitting that the use of the toxin-antitoxin mixtures may not form the ideal method of protection, and that possibly in the future they may be supplanted by some other kind of anti-diphtherial vaccine, he considers they confer an immunity lasting for at least seven years, and in all probability for life. Of the general safety of the method there appears to be no doubt, but the report rightly emphasises the necessity of some form of State control for the standardisation of the toxin used for the test and of the mixtures employed for immunisation. The Regulations of the U.S. Public Health Service are "designed not only to compel the manufacturers to supply a product which fulfils all the desired conditions, but also to prevent any risk of infection or accidental intoxication." It was inevitable that the report should be based mainly on the remarkable work of Dr. W. H. PARK and Dr. A. ZINGHER in New York. It is surely no mere coincidence that the city in which immunisation has been most

[1] The Prophylaxis of Diphtheria. League of Nations. C. 169. M. 45. 1924. III.

thoroughly and systematically carried out should of all the great American cities show the most striking and steady fall in its diphtheria mortality-rate. To quote an American medical contemporary[2]: "The figures now available are a challenge to every city in the United States" (and, may we add, in Great Britain), "which has a diphtheria mortality-rate higher than the strikingly low rate of New York City."

The success in New York has been synchronous with an intensive and unremitting campaign carried on for seven years and resulting in the testing and immunisation of hundreds of thousands of children. Beside this great achievement the results obtained in Edinburgh by Dr. W. ROBERTSON and Dr. W. T. BENSON, and reported on another page of our present issue, may seem very insignificant, but, so far as we are aware, they represent the first serious attempt in this country to protect all the school-children of a large city against diphtheria. As was only to be expected, many difficulties were encountered, but they have for the most part been surmounted satisfactorily. It is most gratifying to learn that it was possible to obtain parental consent for the testing and protection of 43·3 per cent. of the children, and that in the case of a later visit to a particular school consent was given to immunise 50 per cent. of the remainder. Such an experience goes far to prove that the parents were satisfied that the children inoculated on the first occasion had not suffered in any way from the process. There is little reason, indeed, to believe that severe reactions or inflamed arms are common in children of school age, and the fact that in the better-class fee-paying schools absenteeism as the result of inoculation was as low as from 2 to 3 per cent. suggests that the higher percentage in the lower class schools was not really necessary. Dr. BENSON, as regards his methods of propaganda, his certificates of immunity, and his insistence on the necessity of enlisting the sympathy and assistance of the teaching staff of the schools concerned, has followed closely the methods of Dr. ZINGHER, and we can only hope that his efforts will be rewarded with equally striking results. Some time must necessarily elapse before a definite opinion can be given regarding the success of such a scheme, as the acquiring of active immunity is, at best, a slow process. The Edinburgh results, however, so far as they go, seem very encouraging, and of one group of susceptible children no fewer than 91·3 per cent. were found to be immune within six months of inoculation. The important fact in the meantime, however, is that Drs. ROBERTSON and BENSON have clearly demonstrated that, in spite of the opposition of the prejudiced and ignorant, a large proportion of parents in this country will be found not only willing but eager to permit the application of this method of protection for their children, and that the difficulties inseparable from such a considerable undertaking can be overcome by judicious propaganda, by the tact and enthusiasm of those in charge of the work, and by the intelligent coöperation of the school authorities.

HEALTH AT SEA.

SEAFARING has always been one of the staple industries of the British race, and after the initial discomforts are surmounted the life is held to be a healthy one. How far this impression is justified by facts cannot be stated with certainty. The Ministry of Health, which keeps a watchful eye on the bodily welfare of the citizen plying his trade above or below dry land and on the inland waterways, has little time to spare for those whose business is on the high seas. The removal a year ago of the seaman's disability in regard to treatment for venereal disease was due to private enterprise, although the Ministry was sympathetic. The Navy has a well-organised medical staff to record and analyse the incidence of disease and death on vessels of war, but mortality and morbidity in the Mercantile Marine are little more than items among the varied returns of damaged goods and broken ships compiled by the Board of Trade. While the Board of Trade is concerned with the widest aspect of welfare at sea and has under constant consideration the conditions under which the merchant seaman lives, it apparently attaches little importance as to how he dies. Yet the collection of accurate vital statistics and their proper interpretation is one of the first essentials towards establishing satisfactory living conditions. For the Mercantile Marine such returns are not available, and it is in this connexion that Fleet Surgeon W. E. HOME criticises elsewhere in our columns the supervision of health at sea exercised by the Board of Trade. He complains that no figures are given from which the death-rates might be calculated with even approximate accuracy, and further that the listed causes of death bear evidence of lay origin. These criticisms may be just, but to remedy the shortcomings is no simple matter. In the first place, as Dr. HOME himself points out, the total number of men serving in the Mercantile Marine can be calculated only very roughly on the basis of the numbers forming the first crews of vessels during the year, and very few of those who follow the sea spend an entire year on a ship. Greater accuracy might result by taking the total number of "crew-days" run in the Mercantile Marine in one year, and then dividing the number by 365. This would give the number of hypothetical years passed in the service by crews, and from these the annual rate of mortality could be determined. In the second place, the difficulty in calculating the disease and mortality-rates among seamen lies in the fact that only about 1000 ships among the 8000 on the British Register are required by law to carry a qualified surgeon. Thus, while on the lines indicated the total mortality might be calculated with a degree of accuracy, the question of cause of death will depend on the diagnoses of the masters of the ships in the greater proportion of cases. The ship's captain may possess an excellent working knowledge of the medicine-chest, but his diagnosis is not likely to be of value from a statistical point of view. In this connexion it would seem advisable that the Board of Trade should differentiate between the reports submitted from ships which carry a surgeon and ships where medical questions are decided by a layman. While Dr. HOME'S figures indicate that the mortality among merchant seamen is higher than that in the Navy or in the Army, it must be pointed out that, compared with the mortality per 1000 of males in England and Wales between the ages of 20 and 55, it is low. For the Mercantile Marine the rate is 2·08 per 1000; for the latter it is 7·9 per 1000. Nearly all those who sail the seas are medically examined before a voyage, and there is no question that the provision of more accurate and fuller statistics would be of the greatest value as a basis for improving the health of the merchant service. We ought to know, for example, the effect of the different routes traversed by ships. Some of these are reputed healthy, such as the North and South Atlantic routes, and some unhealthy, as the Suez route, and the West and East African coastal routes. The Board of Trade might enlist the coöperation of the Ministry of Health.

[2] Journal of the American Medical Association, Sept. 20th, 1924.

GENERAL MEDICAL COUNCIL ELECTION.

NOMINATIONS of Direct Representatives of the medical profession to the General Medical Council were in the hands of the respective registrars on Thursday last, when the list was closed. As far as is known at the time we go to press the candidates are as follow:—For England and Wales: R. A. Bolam, Newcastle-on-Tyne; H. B. Brackenbury, London; J. Brown, Blackpool; H. J. Cardale, London; H. F. Devis, Downend, near Bristol; R. Fielding-Ould, London; E. A. Gregg, London; J. A. Macdonald, Taunton; Sir T. J. Verrall, Bath; F. H. Westmacott, Manchester; for Scotland, Sir Norman Walker, Edinburgh; for Ireland, Leonard Kidd. Elections occurring as they do only at intervals of five years, it may not be superfluous to point out how and when this method of representation arose. It was in 1886 that the legislature recognised the reasonableness of giving to the practitioners of the country, whose fees maintain the Council, whose education is regulated by it, and whose names may eventually be erased by it from the Register, direct representation upon that Council. The Medical Act of that year directed that three representatives were to be appointed by registered practitioners in England and Wales, one by Scotland, and one by Ireland. In 1909 the G.M.C. recommended to the Privy Council that there should be a fourth representative for England, and at the next election in 1911 a fourth was added. At the elections of 1911 and 1919—the long interval being due to postponement on account of the war—the nominees of the British Medical Association were returned by large majorities. Under the original Act of 1858, the only members of the Council outside the representatives of licensing bodies consisted of six Crown nominees—four for England, one each for Scotland and Ireland. In 1886 the number of English Crown nominees was reduced to three. The first Crown nominees were:—For England: Sir James Clark, Sir Charles Hastings, (Sir) William Lawrence, and Thomas Pridgin Teale; for Scotland, Sir Robert Christison; and for Ireland, William Stokes. Since that time there has been a growing tendency for the Crown to take its nominees from the public medical services. Sir John Simon's appointment in 1876 has been followed by that of his successors in the position of chief medical officer to the Local Government Board or, more recently, the Ministry of Health. The same principle is now being observed in respect of Scotland and Ireland. The other Crown appointments in England have also taken on something of a representative character, one being chairman of the Central Midwives Board, the other connected with dentistry, until this became unnecessary in 1921 when the Dentists Act directed the appointment by the Privy Council of three dentists as additional members of the Council. It is manifestly useful that each of the great public services should have its authoritative exponent on the Council, while it is equally desirable that the practising members of the profession should have their mouthpiece in the Council chamber. The point of view of the practitioner is not necessarily identical with that of the colleges and universities, which commonly send consultants or members of the professorial staff to represent them. In point of fact, however, unanimity on questions of medical education, registration, and discipline has been so complete that it would be difficult for an ordinary onlooker to tell which member of the Council stood for the teaching bodies and which for the practitioners.

A LIST of the medical men who stood successfully for Parliament at the recent General Election will be seen on p. 987. We hope later to add the name of Sir George Berry to this list, and extend meanwhile our congratulations to the 11 medical Members of Parliament, who will no doubt again form themselves into a Parliamentary Medical Committee to watch over the interests of medicine for the benefit of the nation.

Annotations.

"Ne quid nimis."

MENTAL HOSPITAL ADMINISTRATION.

THE tenth annual report [1] of the Board of Control appears at a time when its intrinsic interest is greatly heightened by the evidence being given before the Royal Commission. The report deals with the year 1923 and makes observations on a number of points in connexion with lunacy administration to which reference has been made in our periodic survey of the Mental Hospitals Service. One of the chief anxieties of the Board, as its chairman, Sir Frederick Willis, assured the Commission, relates to the coming necessity of additional accommodation. The total insane population on Jan. 1st last amounted to 130,334, an increment for the year of 4055, which is slightly greater than the steady increase which has now been going on for several years. The number of vacant beds has been reduced by one-half, and at its present figure of 4754, allowing for inequalities of distribution, this means that overcrowding must already exist in some asylums, as indeed is actually the case. Alarming as this condition of affairs may appear, it does not indicate that the incidence of insanity in the general population is increasing, for this has remained remarkably constant for a large number of years; the increase in the asylum population is rather due to the improved health of the certified insane, which is reflected in a fall of the death-rate from 8·89 per cent. to 7·71 per cent. during the year. The recovery-rate shows little change at 31·64 per cent. (calculated on the direct admissions). The weekly cost of maintenance of rate-aided patients has fallen by no less than 12 per cent. It is significant that the proportion of rate-aided patients to the total certified insane is increasing, a change for which more stringent financial conditions among the middle classes are no doubt responsible; "private" patients, although among them are included large numbers in the "Service" class, amount to only 11·6 per cent. of the total. The report discusses at length the available means of providing further accommodation. The position can probably be relieved, at all events for a time, by other and less costly means than the erection of new hospitals, and if the suggestions made by the Board are carried out, the relief of congestion may well be accompanied by improvement in the conditions and amenities of existing institutions. These suggestions fall naturally into two categories. The aim of the first is a redistribution of the inmates, staff included. In many mental hospitals there is no separate nurses' home, and the provision of such a building would set free additional beds in the main building, besides improving the attractions of a nursing career in the eyes of possible candidates for the staff. There is a similar lack of separate admission hospitals and villas for convalescent cases. It is well recognised that treatment, apart from the chronic insane, is of advantage both at the beginning and at the end of a recoverable mental illness, and such reconstruction would therefore increase the resources as well as the mere capacity of the hospital which undertook it. The other category is concerned with accommodating certain of the insane elsewhere. There are many who might well be transferred to Poor-law institutions, to institutions for the mentally defective (if these existed), or boarded out under single care.

Favourable comment is made on certain details of administrative progress. There have been improvements in classification, in the encouragement of personal cleanliness, in the granting of freedom (whether within the asylum or on parole outside), in the provision of dental and other specialist treatment, in the provision of clothing and amusements and in dietaries. Occupational treatment is said

[1] H.M. Stationery Office. 10s. 6d.

to leave room for improvement, an undue number of patients appearing in the returns as being employed only in ward work. There is also a widespread lack of facilities for the isolation of infectious disease; where suitable buildings exist they are sometimes either unequipped or in occupation for other purposes. The fact remains that the average health of asylum inmates shows a marked improvement. No doubt the fall in mortality is due in no small part to the reduced incidence of tuberculosis, the number of recognised cases having fallen by several hundreds to the figure of 1288. There is very wide variation in the incidence of tuberculosis in different hospitals, and since the proportion of tuberculous inmates has been persistently high for a number of years in the same institutions, some explanation for this local variation must exist, as well as for the fact that the average incidence is still eight times that among the general population. Whether this is due to the "mental and physical peculiarities of the insane," to intra-mural ward infection, or to a deficient dietary, is still a matter largely of conjecture. Both dysentery and "severe diarrhœa"—which are now notified weekly, with much greater resulting accuracy in estimating their frequency—have diminished considerably, probably as the result of improved methods in dealing with foul linen, as recommended in a circular issued by the Board. Typhoid and paratyphoid, on the other hand, show little change, and it is a remarkable fact that women, among both patients and staff, appear very much more liable to attack by this disease than men. It is not suggested in the report that this discrepancy may be explained in part by persistence among the male population of the immunity conferred by war-time inoculation; indeed, no mention is made of this possible factor, although it would certainly appear to be one worthy of investigation. A long section of the report deals with original investigations which have been carried out during the year. Twelve mental hospitals have been engaged in research of various kinds, whether bacteriological, biochemical, or therapeutic. In the latter class are, of course, included a variety of attempts in various hospitals at the specific treatment of general paralysis. Much of this work has already been summarised in THE LANCET.

Less cheerful reading will be found in the section of the report dealing with mental deficiency. Whereas the sins of omission and other peccadilloes of the public asylums are treated with a bland and almost apologetic consideration, the entire failure of certain local authorities to give effect to the provisions of the Education Acts with regard to mental deficiency is not unnaturally deplored in measured, but very definite terms. A contrast is drawn between a certain easily recognised Midland centre, where the organisation for dealing with defectives has been perfected to a high degree, and another town where it can be said hardly to exist. In the former case the ascertained defectives amount to 1·1 per cent. of children of school age, in the latter to 0·2 per cent., which does not mean that the latter town enjoys a singular freedom from mental deficiency, but simply that it has totally inadequate facilities for detecting it, apart altogether from any means of dealing with it after detection. The total "ascertainments" throughout the country amount to 35,413, but if anyone supposes that this figure anything like represents the number of defectives with which we have to deal he is unfortunately and greatly mistaken. "Ascertainment," either by officials or by voluntary associations, or by coöperation between local authorities, the managers of refuges, and the police, is sometimes almost entirely neglected. As regards disposal, in some large centres there are no special schools whatever; 33 local authorities have not placed a single case under supervision; 54 have not a single case under guardianship. The lack of large institutions for training is, of course, notorious. That the lives of defectives can be made happier and more useful and that many social evils might be averted by effective provision of this kind is perfectly well known, and unless more active steps are taken in the near future by certain local authorities, it may well be asked whether further legislation is not advisable to ensure that the provisions of the Education Acts shall be more effectively and more generally carried out.

ENDOGENOUS ALCOHOLURIA.

THE metabolism of alcohol has suffered a singular neglect at the hands of physiologists and biochemists. For this reason Prof. Heilner's review [1] deserves careful attention, particularly as he propounds an ingenious theory of his own based upon observations on the excretion of alcohol in the urine. He begins by discussing the importance of catalysts and enzymes in oxidising the intermediate products of metabolism, pointing out that such diseases as alkaptonuria and cystinuria are due to the absence of these bodies. Ketosis is also due to the derangement of some catalyst or ferment responsible for the final oxidation of fatty acids, although the antiketogenous action of carbohydrates remains almost unexplained. In 1908 Dr. Heilner suggested that alcohol, formed intracellularly from sugar, was able to act as a catalyst in the oxidation and breakdown of fatty acids, supporting his theory by the fact that endogenous alcohol was known to originate from normal carbohydrate metabolism. Thus in diabetes mellitus, the alcohol content is lessened in the tissues, while the administration of alcohol by the mouth lessens the excretion of acetone bodies in the urine. Dr. Heilner, however, regards the action of exogenous alcohol as being quite different from that of endogenous, which might be regarded as "nascent." According to him, the administration of alcohol, either subcutaneously or by the mouth, is followed by the taking up of this substance by the various tissues and organs, according to their particular "affinity." The alcohol is then drained from these tissues to the liver and muscles, where it is oxidised. Endogenous alcohol, on the other hand, is immediately oxidised in the cells in which it is formed. The only cells where this process goes on normally are those of the muscles and liver, and consequently these cells are not damaged by the process. Nerve cells, however, which, owing to their lipoid content, dissolve a large quantity of alcohol, are unable to produce or oxidise it, with the result that intoxication results from the exogenous variety. A series of experiments on rabbits are given in support of this view. Rabbits are easily killed by the administration of alcohol by the mouth, whilst the same dose administered intramuscularly merely produces mild symptoms of intoxication. These observations led the author to inject alcohol for the treatment of diabetic coma. He thought there might be a series of diseases due to the lack of a specific ferment or catalyst necessary for the oxidation of endogenous alcohol, which would then circulate, and, by its solubility in nerve cells, produce various nervous diseases. In the first place it was necessary to prove that no alcohol was excreted in the normal individual. This was demonstrated by a long series of urinary examinations of teetotal people, Widmark's method with modification being employed. Alcohol was not found in normal urines, but it occurred in a fair proportion of 50 cases from a psychiatric clinic. The average amount present was 0·15 part per 1000 of urine; in one case as much as 1·26 g. of alcohol was found in the 24 hours specimen. The patients were, of course, kept on a rigid diet, from which alcohol was excluded. The author next considered the question as to whether the origin of the urinary alcohol might not lie in fermentation of carbohydrates in the gut. This he negatived for various reasons, and deduced that its presence was due to the lack of some specific ferment. Finally, the catalytic action of alcohol in the oxidation of fats was examined; it was found that the production of endogenous alcohol increased when fat katabolism increased.

[1] Endogene Alkoholurie. Der Aethylalkohol als Zwischenprodukt. By Prof. Ernst Heilner. Münchener Medizinische Wochenschrift, Oct. 10th, 1924.

The author concludes that endogenous alcoholuria may play an important part in the ætiology of nervous diseases. Many arguments could be brought against Dr. Heilner's theories; the author puts them forward tentatively with a view to further investigation.

SHELL-FISH AND DISEASE.

THE connexion between diseases of the enteric group and polluted shell-fish is now clearly recognised, although it is only within comparatively recent years that this connexion has been definitely established. The passage of infected material into a river which carries the virulent bacteria down to the oyster-beds in its estuary is too well known a fact to need further elaboration. Despite the vigilance of sanitary authorities it seems almost impossible to prevent this entirely, and consequently interest settles round the detection of the oyster which has come from a polluted bed. How this may be done and how the health authorities on the one hand and the Ancient and Worshipful Company of Fishmongers on the other have coöperated to prevent the sale of disease-bearing shell-fish is described by Prof. J. W. H. Eyre in the current issue of *Public Health*. The principle involved lies in the fact that "disease-producing 'intestinal' bacteria rarely occur except in association with a preponderance of *Bacillus coli*," and hence an estimate of the safety or danger of any given batch of oysters can be demonstrated by a bacteriological examination for the latter organism. By mincing the interior of oysters and examining a fine suspension of this material in sterile water the number of colon bacilli may be estimated, following a difficult and complicated technique. Such an operation will, however, require many days for its completion, and from the point of view of the oyster merchant may be vexatious in the extreme. Consequently Prof. Eyre has elaborated a "short method" which permits an opinion to be given after 24 hours. Briefly, it consists of opening oysters with aseptic precautions and inoculating the liquor into tubes of bile-salt broth, of glucose broth, and of litmus milk in suitable dilutions. After 24 hours' incubation these tubes are examined and the presence or otherwise of the colon bacillus determined by observation of the usual changes in the media. If acidity and gas are present in the bile-salt broth culture, for example, this is held to indicate that the oyster from which it was derived contained *at least* 50 *B. coli*, and is therefore to be condemned according to a definite standard determined by the more complicated long method of analysis. If a certain batch of shell-fish is condemned it is the Company of Fishmongers which usually takes action, for under the existing regulations it is a cumbersome undertaking for the local health authorities to institute proceedings. The Company has autocratic control over the London fish market, and it is both the jealous guardian of the interests of the public and the protective patron of the oyster industry. A study of the incidence of typhoid fever in the area over which the Company principally exercises its control is a striking testimony to the work carried out, although factors other than a stringent supervision of the shell-fish industry have also to be considered.

Not only do shell-fish cause disease by harbouring virulent organisms, but they may also be responsible for attacks of urticaria, mussels sometimes giving rise to an acute form of poisoning. In connexion with the latter, two French authors, Fiessinger and Ravina, have recently described[1] a milder form of poisoning by mussels which gives rise to a benign type of jaundice. There is no sudden onset within a few hours of eating mussels as in the acute cases, but two or three days after the meal a mild jaundice develops with a slight enlargement of the liver, absence of bile from the stools and its appearance in the urine as in the ordinary catarrhal jaundice. These authors studied the effect on guinea-pigs of the injection of glycerine and alcohol extracts of mussels, and they report that microscopical examination of the liver in these animals showed definite degenerative changes in the hepatic cells, particularly in the centre of the lobules. They are unable to conclude whether the toxic substance which produces these changes is the same which gives rise to acute mussel poisoning, and it is interesting to note that their cases of jaundice represented single individuals who had eaten mussels in company with others who remained unaffected, while in the case of acute poisoning it is generally a group of persons eating mussels from the same batch who develop symptoms.

[1] Bulletin des Hôpitaux, Oct. 16th, 1924.

MASKING NAUSEOUS DRUGS.

Curare cito, tuto et jucunde. To cure quickly, safely and pleasantly was set out long ago by Asclepiades as the object of any medicinal formula. *Jucunde* has proved a hard problem, and the unpleasant taste of many drugs is still a grave drawback to their use, especially with children. In the United States a large number of the commoner drugs are now obtainable in the form of sweets, and while this may be a handy method of overcoming a difficulty, it is not free from objections, amongst which increased cost is one. This also applies to the use of cachets and the like, where there is often the added drawback of the child's difficulty in swallowing such things. A more satisfactory way of rendering physic palatable is to make the drug itself tasteless or pleasant tasting, a matter to which Dr. Bachem has given careful attention in a recent number of the *Munich Medical Journal*. A large number of substances were tested by the following method. The tongue was touched with some of the solution to be used in diminishing the taste of the drug, and the latter was subsequently placed on the tongue and the taste observed. The effects of the several phosphates of sodium on the taste of various drugs were striking. For example, disodium phosphate very greatly diminishes the bitter taste of veronal-sodium, and tablets called "Paranoval," containing 0·25 g. of each of these substances, are said to be nearly tasteless in aqueous solution. A 10 per cent. solution of disodium phosphate also greatly diminishes the bitter taste of a 1 per cent. digitalis infusion and of a 1/10 per cent. solution of strychnine nitrate. The bitter taste of tincture of aloes and of quinine hydrochloride was only slightly diminished by disodium phosphate, which has also hardly any effect on the taste of tincture of gentian, morphine solution, potassium bromide solution (20 per cent.), and a 10 per cent. solution of caffeine sodium salicylate. A 10 per cent. solution of acid sodium phosphate rendered a 10 per cent. solution of veronal-sodium practically tasteless, but, curiously enough, it had no effect in improving the taste of a 1 per cent. digitalis infusion or a 2 per cent. quinine hydrochloride solution. The taste of the latter, however, was rendered far less bitter when the acid sodium phosphate was used in 20 per cent. solution, and such a solution also improved the taste of strychnine nitrate, urotropin, 1 per cent. morphine, and caffeine sodium salicylate. Acid sodium phosphate has practically no effect on the bitter taste of tincture of aloes, and mitigates but little the unpleasant taste of saline substances, its own taste becoming appreciable.

Remarkably successful results were obtained by the use of tincture of eriodictyon (*Yerba santa*) in removing or diminishing the unpleasant taste of a great variety of drugs. With the exception of aqueous phenol and ferrous sulphate solutions, every unpleasant or bitter tasting substance investigated underwent a great improvement in taste. Even bitter principles such as tincture of gentian and tincture of aloes almost completely lost their bitterness. A very large number of unpleasant tasting drugs gave satisfactory results, including 0·5 per cent. phenol, although 2 per cent. did not show much improvement. Fruit essences also have a marked effect in diminishing or improving the unpleasant taste of drugs subsequently placed on the

tongue. A so-called raspberry essence, consisting of a mixture of the actual distillate from raspberries, with spirit and small quantities of various esters, chloroform, vanillin, &c., was used and placed on the tongue. After the sharp taste of the essence had disappeared, the unpleasant tasting drugs were applied to the tongue, and a distinct improvement was observed in almost every case tried, even including 5 per cent. ferrous sulphate. Only a slight improvement was found with undiluted tincture of aloes, 2 per cent. phenol, and 10 per cent. potassium iodide. There was also a noteworthy improvement even in the sweet taste of sodium salicylate. Gymnemic acid (from *Gymnema silvestris*) has the remarkable property of removing the sweet taste of all substances, though other tastes are unaffected. For example, it causes a sweet orange to taste like a lime, and renders sugar tasteless. It is difficult to give a rational explanation of the physiological mode of action of these taste-suppressing substances, particularly in the case of the phosphates. The raspberry essence is very sparingly soluble in water, and readily soluble in lipoids, and so its effect in inhibiting the action of the sensory nerve endings is not so inexplicable.

THE PRACTITIONER'S RESPONSIBILITY FOR THE MENTAL PATIENT'S SAFETY.

A CORRESPONDENT asks if any further duty attaches to a medical practitioner when, having informed a lunatic's nearest relative that it is desirable for everybody's safety that he should be removed to an asylum and that he is a danger to the public while at large, they refuse to take any action. Should the practitioner himself, our correspondent asks, spontaneously inform the authorities, or conversely, if he allows matters to remain as they are, would he be held in any way responsible were a tragedy to occur?—The question seems to us to fall under three heads, according as it affects the patient, the public, or the practitioner. If the patient is likely to suffer through neglect of proper treatment, we doubt whether anything can be done beyond giving a report in writing to the relatives and disclaiming further responsibility. If there be danger to the public, much depends on the gravity of the case. Should it be merely a question of a public nuisance the previous course of action may suffice; but if there be a likelihood of injury or assault—such as when a paranoiac carried firearms—the practitioner should inform the relieving officer of the facts and leave the matter with him. If it be possible to secure a second opinion before taking this step it would reduce the responsibility. In such a case a careful record should be made at the time of all material facts. The practitioner will be protected against legal action if he acts with reasonable care and in good faith. But if he knows a person to be dangerous and not under proper care and neglects to inform the authorities, he would certainly be blamed by the coroner should a tragedy occur.

ANEURYSM OF THE SPLENIC ARTERY.

Dr. E. A. Baumgartner and Dr. W. S. Thomas,[1] of the Clifton Springs Sanitarium, New York, have collected 40 examples of this rare condition from the literature of the last 50 years, including a case which recently came under their observation. The cases were evenly distributed between the sexes; 19 were males and 16 females, while in 5 the sex was not stated. In 31 the ages ranged from 20 to 60, with 9 in the fourth decennium, and 8 each in the third and fifth, while in 6 the age was not given. Endocarditis with embolism or localised infection was described in only about an eighth of the cases. In only four was there a history of trauma, and in six case reports it is particularly stated that there was no history or evidence of syphilis, and the Wassermann reaction was negative. No one definite cause could therefore be given as in the case of aortic aneurysm. As regards the symptoms, over half the cases had either gastro-intestinal or intraperitoneal hæmorrhages. The gastro-intestinal hæmorrhages may last several months or may terminate fatally at once after rupture into the gastro-intestinal tract. Intraperitoneal hæmorrhage, due to rupture, was fatal in all the 12 cases in which it was found. Although in 15 cases the aneurysm was the size of a hen's egg or larger, in only four was an epigastric tumour described. Pain has been noted either in the form of very severe abdominal cramp or of discomfort only in the epigastrium. In 32 cases the aneurysm was situated in the main trunk of the splenic artery, in seven in one or more of its branches, and in one, reported by Osler, in both the trunk and the branches. In only one case, which was reported by Hoegler in 1920, was a diagnosis made before operation or autopsy. The writers, however, are of opinion that a history of epigastric or upper abdominal pain, more or less gastro-intestinal hæmorrhage, an enlarged spleen, an epigastric tumour with a murmur, and anæmia should certainly point to a splenic aneurysm, though none of these findings should rule out an aneurysm of the coeliac axis. The prognosis is bad, but is much better after operation. Six cases were operated on and four of these recovered, the only recoveries made out of the whole series of 40 cases. Laparotomy should be performed as early as possible. The writers' patient was a woman, aged 48, who had had a history of indigestion all her life and three attacks of severe gastro-intestinal hæmorrhage in the year before death. X ray examination was not satisfactory, although it showed a large spleen. Operation was not performed, as the patient was in extremis. At the autopsy an aneurysmal sac was found in the splenic artery, measuring 9 cm. in diameter, which is probably the largest on record. This was all the more remarkable, as no epigastric tumour had been found during life. The wall of the sac was 1 cm. thick and was composed of dense fibrous tissue. The spleen showed chronic passive congestion and there was hæmorrhage in the stomach and intestines.

[1] Surgery, Gynecology, and Obstetrics, October, 1924.

COMPARATIVE MEDICINE.

THE Section of Comparative Medicine which was inaugurated at the Royal Society of Medicine in July, 1923, now musters 191 members, of whom 127 are human practitioners and 64 are veterinarians. Prof. F. Hobday is the first veterinarian to occupy the presidential chair, and in his opening address delivered last month he expressed his gratification at the selection of a title to the section which covers everything pertaining to the diseases of the human and animal worlds, including those of fish, insects, and plants. There are, he said, many diseases intercommunicable between animals and man, many which are analogous, and many which show totally different methods of manifestation; the contrasts of the latter being not only between man and animals but between the different varieties of animals themselves. Of intercommunicable diseases, to mention only some which are common in this country, there are glanders, tuberculosis, anthrax, rabies, mange, ringworm, and trichinosis; for study on analogous lines there are such diseases as influenza, pneumonia, tetanus, internal parasitic affections, diabetes, cystitis, pyorrhœa, dental caries, many surgical operations, and the formation of cancerous and other tumours. An instance of startling difference in the power of infecting some species and failing to infect others is afforded by the great and fatal virulence of *Bacillus mallei* for man and the horse tribe, and the immunity possessed by the ox; per contra the ruminant and pig tribes are extremely sensitive to foot-and-mouth disease, the horse and ass are comparatively insensitive. The comparative immunity of the dog to anthrax, compared with the extreme fatality of this disease to other animals, requires explanation. There is, Prof. Hobday went on, comparative work to be

done in every section; much can be mutually learned by comparison between the method of working which brings the desired successful result in the man or the animal, and between the symptoms caused by the same disease in each variety of patient. Flesh is flesh, whether of man or beast, and disease is the common enemy. The administration of anæsthetics, the splendid safety of present-day surgery, the study of therapeutics and pathology, even medicine itself, all depended largely on pioneer work done upon animal patients. He encouraged veterinarians to attend the other section of the Society whenever there was anything to interest them. A closer union of medical and veterinary science was needed in order to bring about the prevention and extinction of disease in many parts of the world.

ANTI-RABIC TREATMENT.

WE owe it to the late Lord Long that rabies is no longer an existing danger in this country, for no case of rabies in animals has occurred in England and Wales since December, 1921. In view of this encouraging fact the Minister of Health has decided that special arrangements for anti-rabic treatment in this country are no longer necessary, although a watchful eye has still to be kept on foolish attempts to introduce canine pets by aeroplane. Therefore the Ministry has issued a revised memorandum to the sanitary authorities on the procedure recommended to be followed in the event of persons being bitten by dogs suspected or ascertained to be rabid. Arrangements for anti-rabic treatment with carbolised vaccine, prepared at the Ministry's laboratory, may still be made with Prof. L. S. Dudgeon at the Department of Pathology, St. Thomas's Hospital, London, S.E. 1, but the cost of treatment and any other expenses must now be borne by the patient. In any case where the medical officer of health is satisfied that a person who needs anti-rabic treatment cannot pay for the treatment or stay in London at his own expense for the two or three weeks necessary for the completion of the course, he must at once represent the matter to the council or to the chairman of the council in order that the funds required may be provided by the council. The Minister of Health is prepared to sanction reasonable expenditure incurred by the council for this purpose. The lines on which first-aid treatment of persons bitten by dogs should be carried out, in areas where rabies is suspected, are set out in the memorandum as follows:—

The wound should be treated as soon as possible with undiluted carbolic acid, undiluted izal or similar disinfectant. The disinfectant should be allowed to come into contact with all parts of the wound, and should then be washed out with water or dilute disinfectant. If no disinfectant of the kind is available, the wound should be thoroughly washed and irrigated with hot or cold water. Where it is possible to get the immediate services of a doctor the treatment should be placed in his hands. If the diagnosis of rabies in the dog is confirmed, or notice is received from the Minister of Health that the case should be regarded as one of rabies for purposes of treatment, the person bitten should be urged to secure specific anti-rabic treatment as soon as possible, no matter what local treatment has been applied to the bite. Arrangements for anti-rabic treatment should be made through the medical officer of health of the district in which the patient resides.

Persons bitten by stray dogs or by dogs exhibiting unusual behaviour should at once inform the police with a view to the necessary inquiries being made.

By arrangement with the Ministry of Agriculture and Fisheries, the names of all persons known to officers of that department or to the police to have been bitten by dogs suspected of being rabid will be communicated at once to the medical officer of health of the district in which the bitten persons live. As soon as information reaches the medical officer of health that a person in his district has been bitten by a dog suspected of being rabid, the facts of the case should at once be reported to the Senior Medical Officer, Med. I, Ministry of Health, giving full particulars. The medical officer of health should await instructions from the Minister of Health before sending patients away for treatment.

A brief summary is given of the principles which should guide a medical officer of health in recommending specific anti-rabic treatment. The instructions for the medical officer of health laid down in the memorandum—which apply also to cases notified as occurring in any of the Services—would appear to demand a vast amount of correspondence between various authorities before specific treatment can be instituted in cases where the disease is not self-evident. We sincerely hope that they will not invalidate the final injunction as to the "importance of securing all possible expedition in the procedure."

THE LONGMANS BI-CENTENARY.

LAST year, when we celebrated our centenary, we called attention to the fact that certain firms connected with THE LANCET by the strong links that join the publishers of medical books with the producers of a medical journal, rejoiced in a still more venerable pedigree than our own. It is a pleasant duty this year to congratulate Messrs. Longmans, Green and Co., who have now been established in the publishing trade for 200 years. We have to thank this firm for many classics. The debt owed by medical men to their discrimination is evident if we consider only a few of their more famous successes. Gray's Anatomy, for example, first published in 1858, is now flourishing in its twenty-second edition. Bayliss on the Principles of General Physiology is a classic unlikely to be superseded, whereas Sharpey-Schafer's Essentials of Histology, Quain's Dictionary of Medicine and Watson's Physics are hardly less well established. Of more recent origin, but no less useful, are the Monographs on Physiology and on Biochemistry, edited respectively by Prof. Ernest Starling and by Prof. R. H. A. Plimmer jointly with Prof. F. G. Hopkins. In the October number of the *Edinburgh Review* Mr. Harold Cox sets out the history of Longmans, Green and Co., and, like most true stories of a family business, the narrative is absorbing. The present partners include members of the sixth generation of Longmans to control the firm; we offer them the congratulations of a stalwart younger brother who is precluded from jealousy of their seniority by the assurance that in a few more centuries, when each of us has really reached maturity, the difference in age will appear inconsiderable.

THE FUNCTION OF THE CORPUS STRIATUM.

IN dealing in our issue of Oct. 25th with the localisation of "sleep centres" we noted the lack of exact knowledge of the functions of the thalamus and corpus striatum. It was the publication of S. A. K. Wilson's paper in 1912 on the disease named by him progressive lenticular degeneration which focused the attention of neuropathologists upon the corpus striatum, a region of the brain the pathology and physiology of which had been hitherto almost an untouched field. It is true that isolated cases of the malady had been recorded earlier by Gowers under the name of tetanoid chorea, and that C. Vogt had formulated a syndrome of the corpus striatum, but it remains the fact that until 1912 practically nothing was known of the structural reaction of the corpus striatum to disease, nor of its symptomatology in these circumstances. Since this date Wilson's paper has acted as a potent stimulus to clinical and pathological investigation, and an abundant literature has grown up on the subject. Nevertheless, more problems of every kind have been raised for solution by these researches than have been solved. Our knowledge of the normal functions of the basal ganglia remains where it was, and while we now possess an extensive and minute knowledge of the morbid histology of the structures in question, there is still considerable uncertainty as to what elements in the various so-called syndromes of the corpus striatum actually derive from disease within it, and not from involvement of adjacent regions of the brain. Moreover, a considerable degree of quite unnecessary confusion has been imparted to the subject by the application of the term "pseudosclerosis"

to examples of the disease described by Wilson. The word in question was coined in 1883 by C. Westphal to differentiate from disseminated sclerosis two cases which, while presenting a clinical picture akin to that of this malady, failed to show the underlying lesions in the nervous system. From this period up to 1912, various obscure, diverse, and incompletely elucidated conditions have been included under this heading, which, vague from the outset, soon became meaningless. Unfortunately, German writers now use it to describe cases of progressive lenticular degeneration, despite the fact that Westphal's cases were clearly not examples of this disease. In the current number of *Medical Science* F. M. R. Walshe reviews briefly the recent additions to our knowledge of progressive lenticular degeneration, and of its position in relation to the condition now known as pseudo-sclerosis.

Progressive lenticular degeneration is described as a fatal disease characterised by the development of tremor and muscular rigidity closely resembling those seen in paralysis agitans, by dysarthria and dysphagia, by spasmodic weeping and laughter, and a slight degree of dementia. Like other of the so-called extra-pyramidal diseases, it does not present the loss of voluntary power and the alterations in the reflexes characteristic of lesions involving the pyramidal system. Pathologically, the lesion found by Wilson included bilateral degeneration and softening of the putamen and caudate nucleus, and a profound degree of hepatic cirrhosis. It is the latter feature which renders the malady so unique, and it is of interest to note that the cirrhosis is clinically latent. As is the case with every newly discovered nervous disease, experience reveals, during the course of years, that the clinical picture and the underlying lesion are subject to much wider variations than were at first recognised. In the present instance this is particularly the case with the lesions. Cases have been described in which involuntary movements of athetotic type have replaced tremor, and it seems clear that the so-called torsion spasm is a clinical variant of the disease. One case presenting muscular rigidity without any involuntary movement has also been recorded, and verified pathologically. In respect of the morbid anatomy of the malady, a considerable modification of our original conceptions has become necessary. Of the 30 cases which have come to autopsy, a condition like that described by Wilson has been found in 14. In the others much less gross changes have been visible to the naked eye, and microscopic examination has shown that a system disease of the corpus striatum is not in question, but that cellular changes and nerve-fibre degeneration may be present in the cerebral cortex, cerebellum, and brain stem. A secondary neuroglial proliferation, corresponding in intensity and distribution to the parenchymatous change, is also found. In every instance, despite variations in the nervous lesion, hepatic cirrhosis is constant. These variations in the microscopic picture, with the addition of an inconstant and obscure pigmentation of the cornea, are now made the basis by German neuropathologists for the differentiation of progressive lenticular degeneration, as described by Wilson, from "pseudosclerosis." It is stated that a diffuse and purely microscopic lesion and the presence of corneal pigmentation are characteristic of a disease "pseudosclerosis," and that the presence of a sharply delimited lenticular necrosis and the absence of corneal pigmentation are the features of Wilson's disease. There can no longer be any doubt, however, that these are purely artificial criteria. In unequivocal cases of Wilson's disease, widely diffuse nervous lesions and corneal pigmentation have been recorded, while Spielmeyer has shown that, despite variations in distribution and intensity of morbid change in the nervous system, the lesion is essentially the same in cases recorded under each heading. It is clear, therefore, that the term "pseudosclerosis" is both intrinsically bad and without practical value, and its persistent use has served but to add confusion to an already difficult problem.

Many attempts have been made to elaborate a notion of the normal functions of the corpus striatum from the analysis of the symptom-complexes resulting from its involvement by disease. The apparently strict limitation of the lesion in progressive lenticular degeneration, as originally described, raised hopes that a sound physiology of the corpus striatum might be erected in this way. Unfortunately, to localise symptoms in this structure is not necessarily to determine its function; the two problems are essentially distinct. We cannot safely argue from the rigidity of progressive lenticular degeneration that the corpus striatum normally regulates muscle tone, more especially in view of the evidence provided by the work of Magnus to the effect that this regulation is a function of brain-stem centres, nor may we conclude with Ramsay Hunt that because disease of the globus pallidus is associated clinically with tremor, this mass of grey matter normally inhibits a physiological tremor. Nevertheless, the discovery and description of progressive lenticular degeneration has marked the beginning of a notable advance in clinical and pathological knowledge, and may yet provide us with indications upon which additions to the physiology of the nervous system of equal importance may be built.

THE King has appointed Mr. Francis Desmond Donovan, L.D.S. R.C.S. Eng., Surgeon Dentist to His Majesty's Household.

Dr. E. P. Cathcart, F.R.S., Professor of Chemical Physiology in the University of Glasgow, has been appointed into the vacancy in the membership of the Medical Research Council caused by the retirement of Prof. D. Noel Paton, F.R.S.

Modern Technique in Treatment.

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XCV.—TREATMENT OF ANGINA PECTORIS.

BY angina pectoris I mean an arresting form of cardiac pain, substernal rather than submammary, in which the patient is conscious of a sense of oppression or constriction which may reach a high grade of intensity, up to intolerable anguish. This pain has well-recognised lines of radiation, and is often induced by effort or emotion. There are in addition characteristic associated symptoms not invariably present, notably the sense of impending death and of acute misery accompanied by varying vasomotor disorders such as cold sweats and deathly pallor. These attacks are the response of an inadequate heart to stress, due either to physical effort or emotion. Another potent factor is an exaltation or over-sensitiveness of the central nervous system consequent on prolonged worry, anxiety, or loss of sleep.

General Régime.

The first essential in dealing with the patient is to explain the significance of the phenomenon, pointing out that the substernal discomfort going on to pain must be accepted by him as a peremptory order to halt and to wait until the distress has passed. More than that, it must be considered as a clear indication of the necessity for a careful readjustment of his mode of life. Except in some of the milder cases of angina minor, the wise course is to insist on complete rest in bed for a month, if this be possible. During that time there is full opportunity for careful and detailed examination. When there is a raised blood pressure the patient can be watched to see how far rest and freedom from worry will reduce the hypertension and at the same time the renal efficiency can be investigated, if this is considered necessary, and the

important question as to how far the mode of life must be modified will come under consideration. Plans for the future must be made for his guidance both in regard to his mental and physical activities. They must deal especially with the pace at which he lives and works, his hours at business, and the amount of travelling done. Special attention should be paid to the manner in which the patient spends his leisure, and any unnecessary expenditure of energy in politics or philanthropy viewed with disfavour. For anginal patients it is essential that the week-ends should be a time of rest, and all responsibilities which involve either mental or physical effort on the Sunday should be forthwith vetoed. When the time has come to attempt a return to a more normal life, the patient must be warned of the danger of exercise or effort immediately after a meal, more particularly if it entails exposure to a cold wind. An early retirement to bed is often helpful, and the patient who spends a quiet hour or two reading comfortably in bed before falling asleep is benefiting both his mind and his body. It is well to have the bed and bedroom warmed, otherwise an attack is likely to occur on retiring. Some patients are very sensitive to the chilly sensation experienced in getting into a cold bed.

The general treatment outlined above is an attempt to lower the level of physical effort in order to reduce the strain on a damaged and inadequate heart. As to medication, the recognition of the particular ætiological factor present may serve as an indication. When there is good reason to suspect syphilis, and more especially if the W.R. is positive, mercurial inunction is to be recommended, combined with iodide of potassium in doses of 10 to 15 gr. thrice daily; and a course of salvarsan or similar preparations should be given intravenously. In a large group of patients the blood pressure is unduly raised and persists at a high level in spite of rest and freedom from worry and nervous strain.

Diet and Exercise.

The *diet* of these patients requires regulating. The total intake of food is usually too great. The food should be simple and small in amount; soups and gravies should be eliminated and little if any fluid taken with the meals. It is wise to diminish greatly the amount of meat, roast or grilled, and also any excess of starchy foods or vegetables liable to cause flatulence. A blue pill once a week or fractional doses of calomel given in short courses with a regular morning saline are to be recommended. Where there is any tendency to intestinal flatulence, dimol or kerol in capsules or sodium acid sulphate in gr. x. to gr. xv. doses are all useful. All patients liable to angina should be careful not to overload their stomachs; the meals should be small and a period of rest allowed subsequent to the meal before any effort is attempted.

Exercise.—The myocardium, like every other muscle, benefits by exercise, and it is important that the anginal patient should not be made more of an invalid than is necessary. In the amount of effort undertaken his own sensations must be his guide. He must be honest with himself and slow down or stop at the first indication of substernal discomfort. The more natural a life the patient can lead the better, and he should make a point of getting some exercise daily in the open air. He should, however, be chary of walking against a stiff wind, more particularly if the air be keen. This difficulty in taking as much or as vigorous exercise as formerly tends to induce obesity with the consequent added stress on the heart. When this tendency is noted, vigorous efforts must be made to keep the weight within normal limits. Any gouty tendency should receive appropriate treatment, especially the windy distension of gouty dyspepsia.

In many patients the outstanding factor is mental, the result of prolonged overwork, domestic worries, or business activities. In them the nervous system is on edge. Massive doses of ammonium bromide are then of undoubted value, gr. xx. thrice daily. This is especially useful in the first month or two of treatment, when the patient's habits and mode of life are being reorganised.

Drugs and Special Methods.

The iodides have already been mentioned as of value in the syphilitic group. If they are tolerated well it is worth while giving them a fair trial in the presence of frank arterio-sclerosis. They are usefully combined with bromides, arsenic, and belladonna. Iodine may with advantage be prescribed in the collosol form—2 drachms thrice daily. Theobromine, either as a pure drug in 5 gr. doses given four times a day, or as diuretin in gr. x. doses three or four times daily, appears to diminish the liability to pain. The diuretin is more pleasant when prescribed with the syrup of ginger. If there is any tendency to anæmia or general debility simple hæmatinics combined with arsenic are of undoubted benefit when taken over a long period, the object being to improve the condition of the myocardium by supplying it with good blood.

Diathermy is a method of treatment which is on its trial, but there can be no doubt that it frequently makes patients more comfortable; it appears to diminish both the frequency and the severity of the attacks of anginal pain, though the effect on the blood pressure in patients with hypertension is not very dramatic. It should be administered in a dose varying from 700 to 1500 milliampères, for 20 to 30 minutes twice or thrice a week, the electrodes being placed one on each arm, or one over the præcordium and the other between the shoulders.

On the first indication of substernal discomfort a tablet of trinitrin slowly chewed frequently aborts the attack, and it is advisable to anticipate and ward off a seizure by sucking a tablet before going out into the cold air.

Treatment During an Attack.

In many instances the inhalation of amyl nitrite rapidly diminishes the severity of the pain and relieves the distress. This is, however, not always the case, nor, even when the pain is mitigated, is the effect persistent. If the vaso-dilators fail and the pain persists then there is no drug comparable to morphia. It should be given in sufficiently large doses to bring relief and should be combined with gr. 1/50th atropine. It is essential that the pain should be eased. In persistent angina the action of the hypodermic should be sustained by opium given as a draught. Chloral, gr. x. to xv., combined with this draught is also useful, or chloral may be taken twice a day instead of the opium for a few days at a time. If the pain is agonising and resistant to morphia, a general anæsthesia by the administration of chloroform is justifiable. In the earlier stages of the attack a rapid carminative is often most comforting. Brandy or whisky taken only slightly diluted will often be followed by the eructation of wind and consequent relief. A strong menthol draught is often more efficient. For example:

R	Mentholis	..	gr. viii.
	Spts. ammon. co...	..	aa ℥i.
	Spts. chloroformi		
	Tr. zingiberis		

Two teaspoonfuls in water taken as strong as possible.

The tendency to nocturnal attacks is often obviated by a draught of nepenthe washed down with an ounce of whisky in water before retiring.

Conclusion.

It is clear that in the management of this condition, except in the acute anginal seizures, the object of treatment is to prevent undue stress upon a depreciated myocardium. The pathological changes are incurable. The victim has to face his limitations and live within them. He has to learn to regulate his life and to live at a level of physical and mental effort compatible with his disability. But while recognising this, every means must be used to maintain the myocardium at the full power of which it is capable by a carefully regulated life and by medicinal and other measures.

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Medicine and the Law.

REX *v.* HADWEN.

THE trial of Dr. W. R. Hadwen at Gloucester, on a charge of manslaughter, arising out of the death of a child, his patient, merits close attention by reason of the rarity with which criminal charges, based on negligence, are brought against medical practitioners, and by the consequent importance of a full understanding of the circumstances in which Dr. Hadwen was tried and acquitted. The essential facts, the symptoms alleged in the witness-box to have been observed by those who gave evidence for the prosecution, having seen little Nellie Burnham when alive, the views expressed by those who did not so see her, the facts alleged, and the views avowed by Dr. Hadwen, will all be considered and weighed by our medical readers, who will form their own opinions as to whether the child died of diphtheria or did not suffer from it at any time. The latter was the contention of Dr. Hadwen and of counsel who defended him. It was not, however, necessary for the jury to state, or even to formulate, a conclusion as to this. They did not have to answer a series of questions as in a civil action. It was enough for them to say "Guilty" or "Not Guilty," in accordance with the judge's instruction as to the law, and their own interpretation and application of the facts before them. As Mr. Justice Lush's summing-up can be read in the Special Supplement to this issue, it is not necessary to refer here otherwise than briefly to the law governing manslaughter in the case of a medical practitioner charged with having caused the death of a patient by negligence. Charges of manslaughter by negligence are not uncommon, occurring as they do, for example, in cases when a motorist causes the death of a pedestrian or other person through reckless driving. If such a one, however, is convicted, it is because he has been proved guilty of more than mere carelessness, or lack of observation, or bad driving. He has been proved to have been recklessly and "criminally" negligent. As the judge who tried Dr. Hadwen told the jury in his summing-up, the case required strong and clear proof by the Crown that there had been "criminal" neglect. Moreover, the jury were not to say whether Dr. Hadwen's views were those of a wise medical man or not. Again, it was not enough for the Crown to prove that if the doctor had been careful the patient would have "had a chance." They must be satisfied that he had been careless, and that "in all human probability" if proper care had been used the child "would have recovered." There must, in short, be a much stronger case of negligence than in a civil action for negligence. Unless the negligence were of so gross a character as to amount to "wicked negligence" it would not justify a conviction for manslaughter.

The precise bearing of Dr. Hadwen's expressed opinions upon subjects which the medical profession at large accepts as facts was defined by Mr. Justice Lush. He regarded it as "very unfortunate" that a doctor should shut his eyes to matters generally accepted in his profession, but the jury were not there to criticise his views. He was allowed to follow the medical profession and even if he held peculiar views and at the same time acted as he considered best, he would not be guilty of culpable neglect, although he might be said to be "terribly and sadly mistaken." It will be observed from this that if the jury had been convinced that Dr. Hadwen ought to have taken a swab of Nellie Burnham's throat or to have used antitoxin, it would not necessarily have involved any obligation to convict him of manslaughter, unless they were satisfied that he had no honest belief that such omissions were wrong. If they thought that he honestly held the views he expressed he was in a different position from a man who made the same omissions from sheer carelessness, or, for example, from attending his patient when he was intoxicated. Fom the above it will clearly be seen that in view of the law the prosecution set themselves a difficult task in endeavouring to secure Dr. Hadwen's conviction upon an indictment for manslaughter, however undesirable his treatment of his patient may appear to other members of the medical profession. It was for the jury to hold that the conduct of the accused amounted to criminal misconduct, and also that it occasioned or accelerated death.

With reference to the conduct of the case for and against Dr. Hadwen, it will be seen that an objection was made by his counsel, Sir E. Marshall Hall, to evidence being given as to the result of the examination of the swab taken from the child's throat. This was on the ground that an envelope labelled "N. Burnham," in which the swab had been sent for examination, had been destroyed, and that therefore the swab examined was insufficiently identified. The evidence was admitted, but the judge advised that such envelopes should be kept, and medical men will note the necessity for strict identification and record as to any articles which may be destined to become exhibits in legal proceedings. Another point, as to which protest was made by the defence, in which protest the judge concurred, was the fact that Dr. Hadwen was not invited to be present at the post-mortem examination. There is no obligation as to this, nor is there any prohibition, in the Coroners Act, 1887, which, however, contains the following passage[1] in the section regarding post-mortems: "Provided that where a person states upon oath before the coroner that in his belief the death of the deceased was caused partly or entirely by the improper or negligent treatment of a medical practitioner or other person, such medical practitioners or other persons shall not be allowed to perform or assist at the post-mortem examination of the deceased." This seems to allow, or at any rate not to forbid, the attendance of the accused medical man, but merely in the capacity of an interested spectator with no power to interfere in any way.

The Venue of the Hadwen Case.

A legal correspondent writes as follows:—The unsuccessful attempt to remove the Hadwen trial from Gloucester to London illustrates a queer inconsistency of our law. On the one hand jurymen are directed to hearken to the evidence and are sworn to give a true verdict in the light of it, all hearsay testimony being carefully excluded. On the other hand, the accused person is entitled to be tried in the place where he is known. Venue, it may be unnecessary to explain, is the area of proper jurisdiction for trial of a crime by indictment. The initial Latin words of an ancient writ (now abolished) directed the sheriff to "make jurors come" to a particular place. The venue is the coming, the place to which the jurors come. Another expression used almost as a synonym for venue in early times is "visne," a word connoting vicinity. The jurors are men of the neighbourhood where the supposed crime is committed; and when in the old legal phrase a man who pleads "not guilty" is said to put himself upon the country (*ponit se super patriam*) his *patria* is not his fatherland but his own countryside. The explanation is historical. If the pedigree of our jury system is traced back far enough, the jurors are found not to be mere silent listeners and verdict-givers, but active investigators and actual witnesses who are directed to declare the common report of crimes in their neighbourhood. They are summoned not to hear all about the case and to decide accordingly, but because they know everything about it already. Until modern times, as is well known, a prisoner was not allowed to call witnesses. This restriction, which we find so monstrously unjust, perhaps was less remarkable in days when the jurymen themselves collected and presented the evidence. Be that as it may, an immemorial tradition has established the broad principle (subject to certain well-recognised

[1] Section 21, subsection 2.

modifications) that a man is to be tried in the place where he is known and where the evidence is available. In 1856, by what is known as the Palmer Act, Parliament permitted cases to be removed for trial to the Central Criminal Court "if it shall appear expedient to the ends of justice." Applications for removal are rare. On the one side accused persons are usually content to be judged on the spot, and it is often inconvenient for their legal advisers to go further afield; on the other side the Crown cannot apply to shift the venue without creating the impression of loading the dice against the accused. Nevertheless, the King's Bench Division does permit the removal either where a provincial jury will have to go and view premises in some other county, or where it is believed that a fair and impartial trial cannot be had in the jurisdiction in which the venue is laid.

This being the law, let us see what happened on the application in Dr. Hadwen's case. Up to a certain point the court was sympathetic; there was, at any rate, a case for argument. The difficulty was that the court was asked to contemplate first a state of acute local feeling and secondly the prospect of a forensic atmosphere which would prejudice a calm trial—two matters remarkably difficult to prove by affidavit in face of the excellent British tradition that it is more important that an accused person shall have his full rights than that the Crown shall secure a conviction. In dismissing the application the Lord Chief Justice gave a reason which many lawyers find unconvincing. "I cannot believe," he said, "that there cannot be found in Gloucester 12 persons who, whatever their view on other matters, will give a true verdict on the indictment." With profound respect to his Lordship the statement is irrelevant. Nobody doubts that hundreds of impartial persons could be found in Gloucester. Jurymen, however, are not selected after a search for impartiality but by a more haphazard method. Mr. Justice Avory agreed with the Lord Chief Justice, but Mr. Justice Clavell Salter observed that if he had to deal with the matter alone he would have taken the opposite view. "I feel some fears on the matter, which I hope will prove unfounded." When one reads of the atmosphere at the Gloucester trial, the crowds assembled not out of mere curiosity, but from partisan motives, the court packed with supporters of the accused, the hand-clapping and applause at any point which appeared to assist the defence, one may readily feel that the judicial fears proved all too well founded.

Special Articles.

THE HEALTH OF MERCHANT SEAMEN.

BY W. E. HOME, M.D., B.SC., D.P.H., M.R.C.P. EDIN.,
FLEET SURGEON, R.N. (RETIRED).

CONCERNING merchant seamen, their health, the diseases that occur amongst them, and their death-rate as a class, there is no accurate knowledge. Something can be learned from the annual reports of the medical officers of health to port sanitary authorities, but the only information covering the whole ground is in the statement of the causes of the deaths of seamen which was published annually before the war by the Board of Trade. The war cut across all routines, but in 1920 the Board presented a "Return of the Deaths of Seamen and Fishermen reported to the Board of Trade in the Year ended 30th June, 1914," and, in the early part of this year, it issued a "Return of Shipping Casualties to and Deaths on Vessels Registered in the United Kingdom," which covered the years 1919, 1920, and 1921; this later return, particularly as it refers to 1921, may be profitably discussed. The return states the number of deaths from injury and disease in the Merchant Marine reported during 1921. This total is, of course, important and essential, but by itself insufficient. What the medical profession wants to know is not so much the deaths as the death-rates, and it does seem surprising that this return should neither supply these itself nor furnish the appropriate figures from which they could be calculated. There is a real difficulty. Figures of the total numbers of men employed from day to day in the Merchant Marine do not exist, but the Board does supply, to quote its own words, "figures (which) show the numbers of persons forming the first crews of vessels actually employed during the year specified, and furnish an approximate basis for estimating the variations in the extent of the risks." But then, unfortunately, that is just what the figures presented do not do. The number for 1921 is some 274,000, but that includes fishermen along with the men in trading vessels, who are the men generally known as "merchant seamen," and this figure, 274,000, does not enable us to calculate a death-rate for either. As a matter of fact, the Board of Trade gave me at once any figures asked for, so it has been possible to work out something like the wanted death-rates; but what real use to the world is such a return without the death-rates already worked out and with those of previous years for comparison?

The first table in the report that concerns us as medical men is Table VI., Deaths by Injury; these deaths are arranged in many classes and columns, at considerable expense for printing, according as they occurred in sail or steam, among British, foreign, or lascar seamen, or to masters, stewards, &c., but with never a statement of the total number of men in any one of the groups mentioned. Table VII. shows the deaths by disease reported amongst members of the crews of trading vessels, Table VIII. tells which of the deaths enumerated in Table VII. occurred after the patients had been discharged from their ships, and Table IX. shows the number of deaths to which drink was a contributory cause, and in each of these three tables the deaths of British, foreign, and lascar seamen are stated in separate columns, but again without any statement of the approximate numbers in each group.

"Whitaker's Almanack" is our great authority on the bureaucracy by which we are governed, but no medical officer can be found in "Whitaker" attached to the Board of Trade in any position which might give him oversight of these returns of deaths, and the returns themselves seem to bear witness to their origin under purely lay control. The diseases which were the causes of the deaths are arranged in eight groups. Group A, Specific Febrile Diseases, includes beri-beri, contrary to present practice. Group B, Constitutional Diseases, is rather a surprise, as that name for a group is almost forgotten. In the Navy health reports it was last used in the report for 1885, 40 years ago! Here it includes tuberculosis of all kinds, and cancer! It is somewhat astonishing that the Board of Trade should not have anyone to tell them that tuberculosis is an infectious disease, or that, knowing it, they should class it as constitutional.

It is probably an accident that this return of deaths is made by the Board of Trade. Other returns were supplied by the ships' captains, and somebody had to get the report of the deaths which had happened on the voyage, and therefore the captains would find it most convenient to send the death reports, with the others, to the Board of Trade. So the Board gets the figures, and, no doubt, worries a bit to see they are accurate, and then publishes them, for which we are grateful. The Board then ceases to worry. If the figures referred to bags of coffee or tons of coal, that would be all right; it would be to the financial interest of certain people to keep a watchful eye on the returns. But deaths of seamen are nobody's concern, and I urge that there ought to be somebody appointed to see that these figures are considered when submitted, and properly put before the profession and the country, and thus enabling them to be used for the benefit of the seamen. This can only be done by the

Ministry of Health, but, until it takes hold of the reins, who else is there to take the matter up except the National Sailors' and Firemen's Union, or some similar body?

As anyone studying these returns will first want to compare them with the similar figures published by the Navy, it would be very convenient if the method of grouping diseases adopted in the annual report of the health of the Navy (practically the same as that adopted by the Army) was followed by the Board of Trade here. In the table herewith I have endeavoured to classify the diseases, as far as possible, on that method. From this classification it will appear that in 1921 the death-rates were, in the Merchant Marine, for British seamen, 4·98 per 1000; for lascars, 6·72; and for foreign seamen, 8·41. The death-rate in the Navy was 3·57, in the Army 4·30. These figures, of course, include deaths from accidents, but the death-rates from disease alone were: British seamen, 2·08; foreign seamen, 3·16; lascars, 4·67; Navy, 2·00; and Army, 2·77.

1921.—Deaths and Death-rates in the Merchant Marine, Navy, and Army.

—	Deaths.			Death-rates.				
	Merchant Marine—							
No. of men in group.	British: 173,110.	Foreign: 15,790.	Lascar: 53,540.	British: 1000.	Foreign: 1000.	Lascar: 1000.	Navy: 1000.	Army: 1000.
Dysentery	11	1	13	0·07	0·06	0·24	0·01	0·09
Enteric fever	27	2	4	0·15	0·13	0·07	0·09	0·12
Influenza	2	—	2	0·01	—	0·04	0·02	0·05
Malaria	40	1	9	0·23	0·06	0·17	0·06	0·27
Pneumonia	56	8	62	0·32	0·51	1·16	0·31	0·53
Small-pox	4	—	2	0·02	—	0·04	—	0·04
Tuberculosis (all)	26	3	33	0·15	0·19	0·62	0·28	0·24
Venereal disease	—	—	—	—	—	—	0·05	0·01
Other diseases due to infection	19	6	8	0·11	0·38	0·15	0·16	0·25
Dis. of the nervous system—	28	4	12	0·16	0·25	0·22	0·16	0·13
Circulatory	55	3	33	0·32	0·19	0·62	0·14	0·27
Respiratory	15	3	17	0·09	0·19	0·32	0·06	0·06
Digestive	38	4	24	0·22	0·25	0·45	0·31	0·41
Urinary and generative	21	3	3	0·12	0·19	0·06	0·10	0·06
Cutaneous	—	—	—	—	—	—	0·03	0·01
Various	2	3	7	0·01	0·19	0·13	0·20	0·16
Debility, unknown, &c.	18	9	21	0·10	0·57	0·39	—	0·02
Wounds in action	—	—	—	—	—	—	0·05	—
Heat-stroke	14	1	3	0·08	0·06	0·06	0·04	0·12 +
Alcohol	42	4	0	0·24	0·25	—	0·05	0·09
Other poisons	—	—	—	—	—	—	0·02	
Suicide	30	5	18	0·17	0·32	0·33	0·18	0·12
Other injuries	417	73	89	2·41	4·62	1·66	1·24	1·21
Total	865	133	360	4·98	8·41	6·72	3·57	4·30
Diseases	362	50	250	2·08	3·16	4·67	2·00	2·77
Accidents*	461	79	110	2·66	5·00	2·05	1·46	1·46
Alcohol	42	4	0	0·24	0·25	0	0·05	<0·09†

* Includes injuries, heat-stroke, and suicide.
† < = less than.

When considering the diseases of seamen, it is important to remember Dr. W. M. Willoughby's statement at the Congress of the Royal Sanitary Institute at Liverpool, that most of the diseases seen in ships come from the shore, and that, consequently, sailing ships (with longer time at sea) are healthier than steamers. To take, first, the death-rates of British seamen, we see that their enteric fever rate is higher than that of any other group. The pneumonia rate is the highest, and it is perhaps worth noticing that all the deaths from pneumonia were reported as occurring in steamships in 1921. Pneumonia is considered by the directing staffs of the Navy, Army, and Air Force to be a communicable or infectious disease, not a disease of the lung, and it is a pity it is not included by the Board of Trade in the A group, although it certainly is grouped still by the Registrar-General with the diseases of the respiratory system. All persons who deal with the health of numbers of men are coming to look on the incidence of pneumonia as a test for conditions of overcrowding. The death-rates for pneumonia in the Mercantile Marine were: British seamen, 0·32; foreign seamen, 0·51; lascars, 1·16; in the Navy, 0·31; and in the Army, 0·53. Attention should here be drawn to the fact that British and foreign seamen are required to have 120 cubic feet of air space in their ships, but lascars need not have more than 72, and that, in fact, they do have a much higher death-rate from pneumonia than have the others who are less closely crowded. A similar state of affairs becomes evident when we turn to the tuberculosis death-rates; these are in the Mercantile Marine: British, 0·15; foreign, 0·19; lascar, 0·62; in the Navy, 0·28; and in the Army, 0·24. The lascars with the smallest obligatory cubic space have far the heaviest rate. The other heavier death-rates for British seamen are due to: Diseases of the circulatory system, 0·32; alcohol, 0·24; and injuries, 2·41. Foreign seamen suffer severely, as already said, from pneumonia (0·51); they have also high death-rates from suicide (0·32), alcohol (0·25), and injuries (4·62). Lascars have the highest death-rate from suicide (0·33). The death-rate of lascars is obviously excessive, but the death-rate of British merchant seamen from disease is not far removed from that of the men in the Navy on the figures. But as the Board of Trade itself, as we have seen, remarks, we have only an approximate basis for estimating these rates. In the Navy and Army the number daily victualled is known, and the death-rates thereon calculated are accurate. In the Merchant Service we have only the figures of "the first crews of vessels" to go by, and these give us figures that would only be exactly comparable with those of the Navy, if all the ships were running on the New Year's day, and continued in steady employment all through the year, which they do not. The result is that every interruption makes the number of men given too high, so the death-rates are steadily lower on paper than they are in reality. The rates cannot be less than those in the table, but they may be a great deal higher. The true death-rates of the Merchant Service cannot be really known until the collection of the statistics is laid as a duty on the Ministry of Health, when an inspector, inspired by a knowledge of the value and importance of death-rates, would set himself to find out what the figures should be; he will not find the work, once he sets himself to it, nearly so difficult as it perhaps appears. The work should not, at any rate, be left in the hands of th Board of Trade, which is not staffed to appreciate what these figures mean, nor to do anything with them for the benefit of seamen, even when they are known.

McGILL UNIVERSITY, MONTREAL: THE NEW PATHOLOGICAL BUILDING.

THE new pathological institute at McGill was opened by the Hon. N. Perodeau, Lieut.-Governor of the province of Quebec, on Oct. 6th, the 180th anniversary of the birth in Glasgow of James McGill, founder of the University. McGill died in Montreal in 1813 and left his estate there and £10,000 to establish a University, making the condition that this should be effected within ten years of his death. Prolonged litigation with the family led to much delay. A Charter was obtained in 1821 and in 1823 five professors were appointed, but no funds were available and there was no teaching. It was the existence of a private medical school, organised by the medical officers of the Montreal General Hospital, which relieved the University from this impasse, for in 1829 it was agreed that the Montreal Medical Institution should be "engrafted upon the College as its medical faculty." Which being done, the University came into actual existence, the medical faculty being by far the most important part of the organisation for the next 25 years or so; the arts faculty was established in 1843 and the faculty of natural science in 1857. The first

degree granted by McGill was given in medicine in 1833. The medical school was for many years housed in the town, and it was not till 1872 that it obtained a building in the University grounds. Successive extensions were made from time to time and a splendid set of buildings is now completed by the new pathological institute.

History of Pathology at McGill University.

In this medical faculty pathology has always held an honoured position. In the middle of last century the clinical staff had largely been brought up under Scottish influence, and morbid anatomy was carefully cultivated and specimens were collected for teaching purposes in relation to medicine and surgery; some of these are still in the museum. This autopsy work was a distinctive feature of McGill and contrasted with the practice of American schools at the time when post-mortems were usually cursory or hardly performed at all. On this groundwork systematic independent teaching and research was implanted by Osler, who, in the 'seventies, came back from a trip to Europe full of enthusiasm and admiration for Virchow and his methods and started classes in pathological anatomy and histology (originally held in the cloak room) as part of his chair of the institutes of medicine. The chair of pathology was founded in 1892, and Dr. J. G. Adami, now Vice-Chancellor of the University of Liverpool, did much as first professor to enhance the reputation of McGill in the pathological world till he was succeeded ten years ago by Dr. Horst Oertel, under whom the department has reached its present imposing dimensions.

The governors' minute-book records that at the momentous meeting in 1829 the room was filled by "numerous and respectable individuals who had assembled to witness the ceremony. Among the company was noticed several Members of the Government, the principal members of the Bar, the lecturers at the Montreal Medical Institution, and several gentlemen more or less connected with the proposed College." Much the same might be said of the present occasion, and there were in addition a number of delegates and representatives from other universities. The dedicatory address, which we shall print in a later issue, was given by Prof. A. E. Boycott.

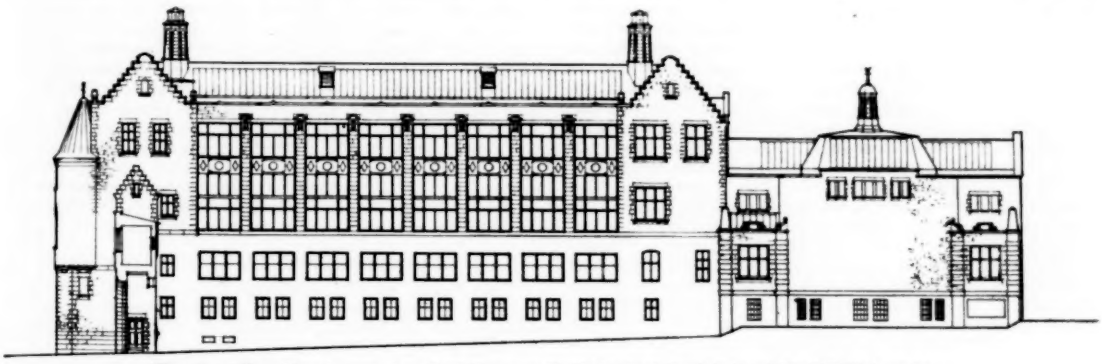


FIG. 1.—Elevation to courtyard of the new Pathological Institute at McGill University.

The New Building.

The new building, a small part of which houses also medical jurisprudence, has been erected with funds subscribed for the centenary celebrations by the citizens of Montreal and the alumni of the University; large contributions have also been made by the Royal Victoria Hospital, and the whole is part of a scheme for the encouragement of the medical sciences which the Rockefeller Foundation has most generously helped. The total expenditure on construction and equipment has been a little more than £100,000, or about 2*s.* 6*d.* per cubic foot; the annual budget is estimated at about £13,000. The institute forms a handsome stone building in harmony with the rest of the University, and with the Royal Victoria Hospital, with which it is connected by a subway. Over all it measures about 240 by 70 feet, and this shape secures admirably the efficient lighting, without

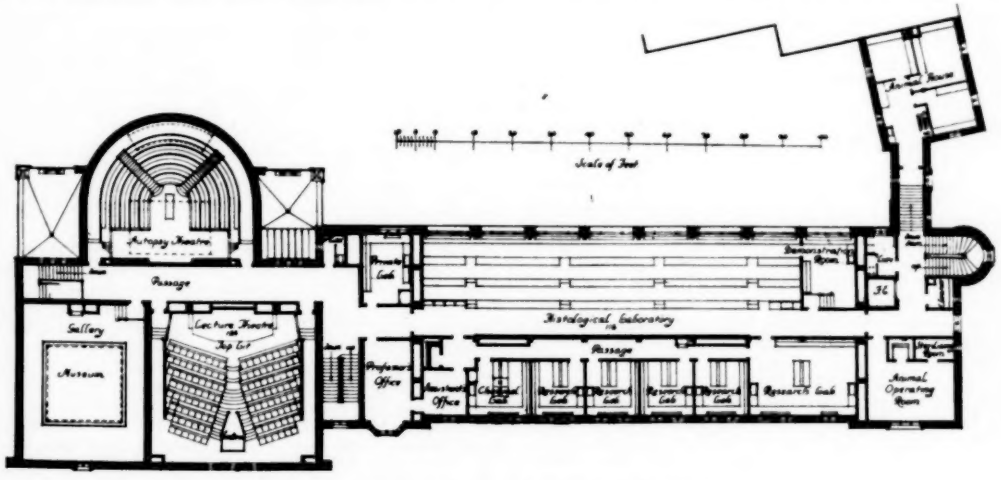


FIG. 2.—Plan of the second floor of the Institute.

which a good proportion of a series of laboratories may be practically wasted.

The basement houses the machine room with the cooling plant, &c., the mortuary and chapel (approached both from the hospital and by a separate entrance at the rear of the building), preparation and mounting rooms for museum specimens, students' rooms, and cloak rooms. On the ground floor the visitor is reminded "hic est locus ubi mors gaudet succurrere vitae," and finds the lecture theatre (where porous acoustic tiles most successfully damp any reverberation), a museum, a large demonstration auditorium with two smaller autopsy rooms, a room for the pathological conferences between clinicians and pathologists which are so universal in America, the laboratories and record room for post-mortem and surgeons' specimens, general experimental rooms, and the library. The first floor provides an exceptionally well-lighted students' histological class room, a number of small research laboratories and animal accommodation, while the top floor is occupied by the subdepartment of bacteriology with a large class room and laboratories for routine work and research. Electricity, gas, hot and cold water, and compressed air are carried throughout the building; refrigerating pipes, live steam, and a vacuum are widely distributed. The floors are covered with linoleum on concrete. The whole forms an admirable roomy building in which the pathological work of McGill should flourish still more. It has not been possible at present to make as much accommodation as could be wished for chemical and experimental pathology, but the plans have been so drawn that these extensions may be added later at the north end of the building. We wish Prof. Oertel and his colleagues a happy occupation and a fruitful and prosperous enjoyment of their splendid home.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

General Paralysis among Jews.

IN the *Zeitschrift für Rassenhygiene* Dr. Bluhm, of Munich, recently reported an investigation into the incidence of general paralysis of the insane among Jews. He stated that of the insane Jews in the Munich asylums 21 per cent. suffered from general paralysis, the percentage among other insane persons being 13. In Eastern countries where Jews marry at an early age the disease is said to be less frequent amongst them. The reason of the greater frequency of paralysis is, in the author's opinion, that the brain of the Jew offers less resistance to syphilitic infection owing to the greater vivacity of the race and the racial preference for life in towns where there are more excitements than in the country; also there is a greater percentage of intellectual workers amongst the Jews. In the Jewish race paralysis usually breaks out at an earlier age than among other races. The disease runs a longer course in Jews than in others, but the duration of life is the same. It is remarkable that of the paralytic Jews 14 per cent. were habitual drunkards, against 11 per cent. of other paralytic patients; this is the more remarkable as alcoholism is less rife among Jews than amongst Gentiles; it seems to mean that a Jew indulging in spirits is especially liable to become paralytic. There is also a difference in the type of paralysis occurring in Jews; the demented form among Jews has an incidence of 31·8 per cent., compared to 74 per cent. in non-Jews; in the depressive form the percentages are 22·7 and 8 respectively, the agitated form 9 per cent., compared to 2 per cent., the megalomanic 25 per cent. as against 12 per cent., while atypical forms in Jews have a percentage of 11·4, compared to 4 in Gentiles. The most striking difference, however, is found in the relative percentages among women, being only 4 per cent. in Jews, but about 30 per cent. in others. The reason is probably that prostitution amongst Jewish girls in Germany is very rare. The author gave also interesting records concerning insanity amongst Jews in general. In the period of 1908 to 1920, 87,486 insane were received in the asylums of Bavaria, of whom 1373 were Jews, being 1·57 per cent. of the total number, whilst Jews number only 0·85 per cent. of the population in Bavaria.

Dogs as Guides for Blind Invalids.

A training school for dogs as guides for blind invalids of the late war was established some time ago. In that school dogs are trained to lead the blinded men through crowded streets and to avoid vehicular traffic. In the training ground of the school are dummy obstacles such as stairs, wire, stones, holes, bridges, and letter-boxes. After a training of six weeks a dog is, as a rule, able to lead a blind man. To accustom a dog to his companion and vice versa, the blind stay for a fortnight on the premises of the school, where rooms and nurses are provided for them. It is indeed striking—and touching—to see those dogs leading blind invalids safely through the streets, guarding them from traffic dangers.

Advertisements of the Medical Press.

The Union of the Medical Press recently held a conference on the occasion of the meeting of the Association of German Medical Men and Naturalists at Innsbruck. After a discussion concerning the agreements between medical authors and the press the conference discussed the question of advertisements of proprietary medicines. It was agreed that advertisements ought not to be received in the medical press without a statement of their ingredients, and in the case of compounds of strong action a statement of the proportion of ingredients had to be given. Advertisements making misleading statements of the chemical composition of the medicament, its efficacy, or its harmlessness were to be refused.

Discussion on Cerebral Tumours.

Before the Munich Medical Society Prof. E. Boström recently read a paper on cerebral tumours, basing his remarks on 72 cases that had been observed by him. The mortality of operated and of unoperated cases had been the same. The best chance of a cure was given by an early diagnosis. Operations for cysts gave favourable results. Headache was prevalent in 50 per cent. of the cases only, choked disc in 25 per cent. Radiographic examination was of value only in cases where a growth occurred in connexion with a bone and in cases with increased cerebral pressure, where the radiogram showed an expansion of the sutures of the skull. In the discussion which followed Prof. F. Sauerbruch stated that the results of an operation were not very favourable in his experience; radical removal of a cerebral tumour had been possible only in seven cases. Apart from the great difficulties of diagnosis and of localisation untoward results were frequent both during and after an operation. A number of patients showed, after the skull had been opened, symptoms of paralysis of respiration and of circulation. Pneumonia due to food entering the air passage owing to the disappearance of reflexes was frequent. The technique of the operation itself was relatively simple, but as the skull opening had to be rather circumscribed a view of the growth was difficult to obtain and was hindered also by the profuse hæmorrhage connected with the operation. Prof. Sauerbruch declined to perform ventricular puncture as devised by Dr. Neisser, because of the possible sequelæ of hæmorrhagic infarcts and lesion of the middle meningeal artery. To be effective the puncture had to be performed in different parts of the brain. Exploratory craniotomy on the principles of exploratory laparotomy was to be recommended. Death from increased cerebral pressure might occur, but this happened only in the case of large and malignant growths which would be otherwise fatal even without exploratory craniotomy.

Public Health Services.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

TWO LARGE SEAPORTS.

THE following table gives some of the principal statistics for the cities of Liverpool and Glasgow for the year 1923:—

Name of city.	Estimated (R.-G.) mid-year population.	Birth-rate.	Death-rates per 1000 of the population.				Death-rates per 1000 births.		
			All causes.	Tuberculosis.	Cancer.	Resp. diseases with influenza.	Neonatal mortality.	Infant mortality.	Maternal mort. from childbirth.
Liverpool ..	837,600	24·7	13·6	1·6	1·1	3·4	32	99	3·0
Glasgow ..	1,041,400	25·6	14·3	1·5	1·2	2·3	35	89	6·5

Liverpool.

Dr. E. W. Hope says that in Liverpool a larger proportion of the inhabitants seek hospital assistance in times of sickness than in any other city in the country, a fact which bears testimony to the public confidence in the institutions provided by the municipality and the boards of guardians. Latterly, under existing housing conditions, the claims on these institutions have increased. One of the events of the year was the opening on Dec. 15th of the Carnegie Welfare Centre by Miss Haldane, one of the trustees. Photographs and a description of the new centre are included in the report, and it is already proving a most valuable addition to the maternity and child welfare scheme. Photographs are also included in the report of the new seamen's dispensary, which was opened by the Lord Mayor of Liverpool in January, 1924. The site is admirably chosen for the work. The dispensary is intended to deal primarily with venereal diseases, but other ailments of seamen will be treated, and it will, in fact, serve as a clearing house for the provision of treatment for tropical diseases, &c. The Liverpool Corporation and the neighbouring Mersey-side sanitary authorities are unanimous in their desire to secure powers to compel sufferers from venereal diseases to seek medical advice and to follow the doctor's instructions. Clauses for the purpose of achieving this object have been inserted in the next Liverpool Corporation Bill, and the text of the clauses is given in Dr. Hope's report. The necessity for the provision of a hostel, where young women suffering from venereal diseases can be housed during the infectious stage, has been recognised for some years, and arrangements have now been made with the Liverpool Diocesan Association to provide such an institution for the accommodation of 15 women. The corporation will pay towards its upkeep. With the approval of the Ministry of Health educational propagandism with regard to these diseases is undertaken by a joint committee, the members of which are appointed by the Mersey-side boroughs—namely, Liverpool and Birkenhead, Bootle and Wallasey.

The Liverpool tuberculosis scheme received an important addition when the corporation took over Highfield Sanatorium from the West Derby board of guardians for a period of two years. Arrangements have now been made for the purchase of the building. At the end of 1923 there were 289 patients in residence. An arc-light equipment has been installed at the Fazakerley Sanatorium, similar to those in use at Copenhagen and Stockholm. The type was decided upon after an inspection of equipment in use on the continent, and the methods prescribed by Dr. Reyn, of the Finsen Institute, Copenhagen, are being observed in their essential details. As yet, only surgical tuberculosis has been treated (with encouraging results), as it is recognised that great caution is necessary in the use of the arc light for pulmonary disease. Sun treatment is being used so far as it is applicable in our climate. During the last 12 months a careful trial has been made of the treatment suggested by Sir Leonard Rogers, the leader of the leprosy campaign, which consists, put briefly, in the injection of certain fatty substances derived from cod-liver and other oils with the object of raising the patient's resistance to the tubercle bacillus. There was a considerable increase in the prevalence of encephalitis lethargica; 111 cases were notified with 36 deaths. During the autumn the type of the disease altered somewhat and signs of cerebral irritation became a noticeable feature. More than half the cases occurred under 20 years of age. Over 30 years of age the liability to contract the disease appears to be small, but the case fatality increases rapidly with advancing age. The disease has been principally prevalent in the winter months. In only about 9 per cent. of the cases was a history of contact with a preceding case elicited. One of the most distressing features has been the alteration of the mental condition of the children affected. This change may develop at once or not until a period of months or years after the primary attack, and not infrequently this mental degeneration occurs after mild attacks. The change in the child is so characteristic as to enable a diagnosis to be made retrospectively, and a number of such cases have been reported by the school medical officers. The present condition of 41 children under 15 attacked with encephalitis lethargica during 1923 shows that as yet only seven are normal. During April and May, 1924, 16 cases of enteric fever (paratyphoid B) occurred in Liverpool and other cases in the vicinity. During the previous three years there have only been eight cases of this disease. The cause of the outbreak remained a mystery as all the usual food sources of infection could be excluded. Dr. Hope thinks that the agent responsible for the spread of infection must be one that is widely used but not heavily infected, and one which is more used by children than adults. He has received information that the disease has been recently prevalent in Bolton, Wigan, and elsewhere.

The position in Liverpool with regard to housing is still "unhappy." The provision of 6000 houses by the corporation has not enabled arrears to be overtaken, still less has it met the needs of the growing population. The large increase in the number of families living in single rooms has resulted in the registration of 537 additional houses let in lodgings. Dr. Hope estimates that Liverpool is at present worse off from the point of view of housing accommodation than at the close of 1914 by rather more than 10,000 houses. Although the proportion of house building has been greater than in other cities, the needs of Liverpool appear to be greater than those of any other city. The 1921 Census showed that there were in Liverpool 11,064 families occupying one room only as compared with 3822 in Manchester. The percentage of families in Liverpool occupying one room only was the highest among the Lancashire towns—namely, 6·4. In Manchester the percentage was 2·3. Dr. Hope refers to communications from the Ministries of Health, Pensions, and Labour with regard to the after-care of tuberculosis recommending that steps should be taken in good time to ascertain that the home conditions of patients about to leave the sanatoriums are satisfactory, and points out how impossible it is to comply with the suggestion, and that these communications from the Ministries merely bring into prominence one of the many evils resulting from house shortage. Several pages of the report are taken up with extracts illustrative of the thousands of piteous and insistent letters received from applicants for houses. Dr. Hope points out that the original undertakings of the housing committee are approaching completion and that an amplified scheme should be embarked upon forthwith. The

scheme for the provision of a new abattoir, adequate to the needs of Liverpool, which has been discussed for 20 years, has made progress during the year, and Dr. Hope trusts that there will be no further delay in bringing into operation this eminently desirable reform. The site secured near the existing Stanley cattle market has been cleared ready for the erection of the new buildings.

As the result of the working of the milk clauses a considerable improvement has been noted during later years in the sanitation of the cowsheds outside the city. The tables given in the report do not indicate that this improvement has affected the prevalence of bovine tuberculosis. Thus out of 593 "bulk" samples of country milk 62 were found to be tuberculous. This gives a percentage of 10·5 as compared with a percentage of 7·6 during the last 11 years. Out of 309 "bulk" samples of milk produced in the city during 1923 19 were found to be tuberculous. This gives a percentage of 6·1 to be compared with an average percentage of 7·2 during the last 11 years. Dr. Hope is in full agreement with the increasing demand for education of the public in health matters, and instances the value of institutions like the Liverpool School of Hygiene for the purpose.

Glasgow.

Dr. A. K. Chalmers says that by far the most important sanitary occurrence of the year was the confirmation by the Board of Health of the Cowcaddens improvement scheme. At the end of the year 107 families had been displaced from houses in the northern part of this area; 101 of the dis-housed families were accommodated in houses on Hamilton Hill, 79 in two-apartment houses, and 22 in three-apartment houses at rentals of 6*s.* 6*d.* and 7*s.* 5*d.* respectively, as compared with rentals of 4*s.* 8*d.* and 5*s.* 10*d.* for the houses from which they had moved. Thirteen of the dispossessed tenants came from one-apartment houses rented at 3*s.* 7*d.* New one-apartment houses have not been permitted by the Dean of Guild Court since 1916. The tenants are reported to appreciate the advantages of their new dwellings as compared with their old ones, and to have reacted favourably to the healthier environment. A lady official of the Salvation Army, familiar with both the old and the new conditions, notices an increasing sense of self-respect among the girls as a result of the change. Progress with the improvement scheme will depend upon the rate at which new houses can be supplied. The margin of unoccupied houses was only 325 in the year 1923, and one-half are of five apartments and upwards. The excess of births over deaths is about 10,000 annually, and only 1200 new houses are being built each year. Instead of the shortage becoming reduced it is increasing, and Dr. Chalmers estimates that about 3800 houses are required annually instead of 1200. Rooms in Glasgow are bigger than in England. Dr. Chalmers therefore takes as a basis for overcrowding an excess of three persons to a room, instead of two persons to a room, the usual basis in England. He quotes figures from the Census showing that 14,131 one-roomed houses are occupied by from 4 to 6 persons each, 1643 by 7 to 9 persons each, and 62 by 10 to 12 persons each; and that 19,596 two-roomed houses are occupied by from 7 to 9 persons, 2832 by from 10 to 12, and 117 by more than 12. On the before-mentioned basis overcrowding is found to be present in 39,922 houses, equal to 19 per cent. of the total number of houses containing four rooms and under. It was mentioned that rooms in Glasgow are usually bigger than in England, but Dr. Chalmers draws attention to the fact that there is a tendency to reduce the size of the rooms, and he views this tendency with some apprehension. As regards the effect on health, it has been found that the death-rate from all causes in the one-roomed houses is double that in the four-roomed houses, while the phthisis deaths in the one-roomed houses are three times as numerous as those in the four-roomed houses.

The description of the work of the V.D. centres shows a slight reduction in new cases, but an increase in the indoor treatment and in the number of out-patient attendances. Dr. Chalmers expresses his dissatisfaction with the scheme as at present carried out throughout the country for various reasons. He is not satisfied as to whether the reduction in cases is a result of the work of the clinics or merely a recession from post-war prevalence. Again, only a small number of gonorrhœa cases seek treatment. Thirdly, the number of cases which cease treatment before being cured is large. In Glasgow it is about 45 per cent. Again, we are getting no answer to such questions as possible alterations of the type of infection, the effect of social conditions, or the economic strain of under-paid female labour. Is there a return commensurate with the cost, he asks. For instance, more cases of congenital syphilis were reported from the Glasgow centres in 1923 than in 1922. On the other hand, there is a decline during the last three years in the prevalence of ophthalmia neonatorum, but this decline may be due to the use of silver nitrate solution for the eyes of newly-born children which was made compulsory by the C.M.B., dating from January, 1922. One of Dr. Chalmers's chief points is that the establishment of the centres has encouraged libertines, and he cites the figures of the municipal V.D. centres at Glasgow during a recent year. During this year there were 745 new male cases, 359 of whom were undoubtedly primary cases. In the case of 311 there was a history of a previous attack, of subsequent exposure to infection, and of recurrence of symptoms. In 61 cases this sequence of events had occurred for the third time, in 12 for the fourth time, and in two for more than four times. In other words, more than half the total number of these male patients were habitual libertines. Dr. Chalmers thinks that the treatment of venereal diseases, which was farmed out by local authorities as a matter of emergency, should now be taken in hand by the local authorities directly with a view to the comprehensive study of the whole problem of the distribution of venereal diseases. Towards this end notification by name and address is the first step on the programme, but can only be applied effectively to large areas.

A milk-borne outbreak of scarlet fever occurred in January and February and was traced to the child of a dairy-farmer who was found in the desquamating stage of the disease and who was said to have had a "blush" on the skin, a sore-throat, and swollen cervical glands three weeks earlier. Some 23 cases were traced to the milk. An unusual occurrence is mentioned in the case of three children who were infected with diphtheria by playing with a child who was subsequently found to be suffering from conjunctival diphtheria. Dr. Chalmers says that for many years 80 to 90 per cent. of the city's milk has been pasteurised by the "Flash" method, and that with commendable enterprise distributors are installing plant for the "Holder" process in conformity with the new regulations. The bulk of the milk in Glasgow is 20 to 36 hours old before it reaches the consumer, and in order to ensure satisfactory results and the delivery of a milk of low bacterial count a closer coöperation amongst producers, distributors, and retailers will be necessary. During the year 126 samples of mixed milk were taken at the railway stations and ten of these, or about 8 per cent., were found to contain tubercle bacilli.

An interesting report by the senior smoke inspector, Mr. Colin B. Park, shows that determined efforts are being made to reduce the smoke nuisance. It is stated that the atmosphere of Glasgow has been materially improved during the last 25 years. In 1899 and 1900 the intimations of excess smoke amounted to 17·5 per cent. of the chimneys observed, whereas during 1922 and 1923 the intimations only amounted to 1·7 per cent. In the earlier years, too, five minutes black smoke in the hour was deemed to be excess, whereas during the latter years the limit used was two minutes of black smoke.

MENTAL HOSPITALS SERVICE.

Hertfordshire.

IN the annual report for 1923 of the Hertfordshire County Mental Hospital, St. Albans, a slight increase in the numbers of certified insane in this county is recorded. There is, nevertheless, still surplus accommodation. The recovery rate on direct admissions is 38·5 per cent., and the death-rate 6·11 per cent. Although three deaths occurred from dysentery and six from tuberculosis, there is no record of the degree of prevalence of these diseases in the hospital, or, indeed, any reference to the general state of health of its inmates. There is no record of any visit by a Commissioner of the Board of Control. This report appears to be one in which greater space might with advantage be devoted to the therapeutic aspect of the institution's work.

Carmarthen.

It appears in the annual report of the Joint Counties Mental Hospital at Carmarthen that the population of this hospital is increasing, the male side being overcrowded to the extent of 21 cases. This is the more serious since considerable staff reductions took place last year. There are now only two medical officers, including Dr. John Richards, the superintendent, for over 600 patients, and corresponding reductions in the number of nurses leave the wards at certain times with a "dangerously low staff." Correspondence between the Board of Control and the committee of this hospital has taken place on this question, but there is no indication that any steps are to be taken to carry the recommendations of the Board into effect. Other adverse criticisms appear in the report of the visiting Commissioner. No temperature charts are kept for patients who are ill; tuberculous cases are nursed in the ordinary infirmaries where also some of the new admissions are sent; some 35 cases of diarrhœa have occurred, and no steps have apparently been taken to ascertain whether these are dysenteric. Otherwise the hospital has been free from epidemic disease. The maintenance rate for patients in the three counties (Carmarthen, Cardigan, and Pembroke) is now 19*s.* 3*d.* per week.

Barnwood House Hospital, Gloucester.

In the annual report of Barnwood House Hospital for the Insane, Gloucester, for 1923, may be traced the effects of the small-pox epidemic in that city last year. It is not surprising that a considerable falling-off in the admissions took place; with few exceptions, the entire population of the hospital had to be vaccinated. Last year's report recorded the admission of a large proportion of voluntary boarders, and it is now observed that "there is an increasing demand for voluntary admission, but a considerable number of those admitted are found to be definitely certifiable." No less than 11 such admissions were eventually certified, and with one exception sent to other institutions on certification. A similar difficulty has been encountered at the Manor House, a separate home for cases not requiring certification, the applicants often being found unsuitable for treatment there, and there is some prospect of amalgamating this house with the main hospital and accommodating certified cases in it. It may be remembered that a similar fate has recently befallen Millfield, a voluntary home in connexion with the Retreat, York. Such a step can only be taken with the greatest regret, but the difficulties of running such a home, and of filling it with suitable cases, are extreme, and we may yet be forced to the conclusion that the key to the effective treatment of mental disease of whatever kind, whether established or incipient, severe or slight, lies in the reorganisation of the mental hospitals themselves. Several innovations are recorded at Barnwood House. There are now classes of instruction for female patients in Swedish exercises and art needlework. A laboratory is being equipped for routine pathological work, and the medical superintendent, Dr. A. A. D. Townsend, is asking for the appointment of a regular visiting dentist. It is discouraging that of 27 entrants for the preliminary examination of the Medico-Psychological Association only nine were successful; of two entrants for the final, one passed. It has been observed elsewhere that the only means of persuading nurses and attendants to obtain qualification is to make promotion and increases in salary dependent upon it. Possibly the effect of such an order would be that a sufficient staff could not be maintained.

INFECTIOUS DISEASE IN ENGLAND AND WALES DURING THE WEEK ENDED OCT. 25TH, 1924.

Notifications.—The following cases of infectious disease were notified during the week, namely:—Small-pox, 40 (compared with 80 last week); scarlet fever, 2143; diphtheria, 1139; enteric fever, 75; pneumonia, 746; puerperal fever, 41; cerebro-spinal fever, 10; acute poliomyelitis, 27; acute polio-encephalitis, 1; encephalitis lethargica, 46; dysentery, 9; ophthalmia neonatorum, 109. There were no cases of cholera, plague, or typhus fever notified during the week.

We understand that the nine cases of acute polio-encephalitis included in the return for the week ended Oct. 18th, as notified from Liverpool, were cases of encephalitis lethargica.

Deaths.—In the aggregate of great towns, including London, there were 7 deaths from enteric fever, none from small-pox, 12 from scarlet fever, 30 from diphtheria, 14 from measles, 37 from influenza. In London itself the diphtheria deaths fell to 5, and the deaths from infantile diarrhœa numbered 26.

The Services.

ROYAL ARMY MEDICAL COLLEGE.

Maj. J. A. Manifold, R.A.M.C., to be Assistant Professor.

ROYAL ARMY MEDICAL CORPS.

Capt. W. E. Tyndall is granted the temp. rank of Maj. whilst empld. as Dep. Asst. Director of Pathology.

MILITIA.

Capt. M. K. Nelson to be Maj.

TERRITORIAL ARMY.

Lt. J. A. L. Loudon to be Capt.

The King has conferred the Territorial Decoration upon the undermentioned Officers: Majors F. W. B. Young, A. Walker, and G. B. Gill; and Capt. E. B. Keen.

ROYAL AIR FORCE.

Flying Officer J. G. Russell is promoted to the rank of Flight Lt.

MEDICAL CANDIDATES FOR PARLIAMENT.

SUCCESSFUL AND UNSUCCESSFUL.

THE following is a complete list to date of medical men entitled to sit in the new House of Commons. In the constituency of the Scottish Universities, for which one of the candidates, Sir George Berry, is a medical man, the poll will not be declared until Nov. 13th.

Members.	*Constituency.*	*Party.*
Dr. Walter E. Elliot	Glasgow (Kelvingrove)	C.
Dr. F. E. Fremantle	Hertford (St. Albans)	C.
Dr. L. Haden Guest	Southwark, North	Lab.
Sir Henry Jackson	Wandsworth, Central	C.
Dr. E. G. Graham Little	London University	Ind.
Sir Richard Luce	Derby	C.
Dr. Alfred Salter	Bermondsey, West	Lab.
Dr. Drummond Shiels	Edinburgh, East	Lab.
Prof. T. Sinclair	Queen's University, Belfast	C.
Dr. Thos. Watts	Manchester (Withington)	C.
Dr. J. H. Williams	Carmarthen (Llanelly)	Lab.

List of Medical Candidates for Parliament.

A list of medical candidates is here given, showing the individual position at the poll, and the number of votes registered. A dagger sign indicates member-

ship of the last House of Commons, while an asterisk indicates that the candidate contested this or some other seat at the last General Election.

Constituency.	Name.	Position at poll.	Votes registered.
Universities.			
London	Dr. Graham Little	1	(1) Ind., 3,202
	Sir John Rose Bradford	2	(2) C., 2,813
			(3) L., 1,539
	Dr. F. G. Bushnell	4	(4) Lab., 1,087
Scottish..	Sir George A. Berry†	§	
Queen's, Belfast ..	Prof. T. Sinclair†	U.	—
London Boroughs.			
Bermondsey, West	Dr. Alfred Salter*	1	(1) Lab., 11,578
			(2) L., 8,676
Camberwell, North-west.	Dr. H. B. Morgan*	2	(1) C., 9,626
			(2) Lab., 9,432
			(3) L., 5,138
Hackney, North ..	Dr. Stella Churchill	3	(1) C., 11,975
			(2) L., 7,181
			(3) Lab., 6,097
Hammersmith, South.	Dr. C. Addison ..	2	(1) C., 12,679
			(2) Lab., 8,804
			(3) L., 1,393
Islington, East ..	Dr. Ethel Bentham*	2	(1) C., 14,174
			(2) Lab., 10,280
			(3) L., 7,406
Lambeth, Kennington.	Lieut.-Colonel T. S. Beauchamp-Williams†	2	(1) C., 14,898
			(2) Lab., 11,572
Southwark, North	Dr. L. Haden Guest†	1	(1) Lab., 8,115
			(2) L., 7,085
			(3) C., 3,305
Stoke Newington..	Dr. G. E. Spero†..	2	(1) C., 10,688
			(2) L., 4,758
			(3) Lab., 3,420
Wandsworth, Central	Sir Henry Jackson	1	(1) C., 13,234
			(2) Lab., 8,235
English Boroughs.			
Birmingham, West	Dr. R. Dunstan*..	2	(1) C., 14,801
			(2) Com., 7,158
Derby (2 seats) ..	Sir Richard Luce	2	(1) Lab., 27,423
			(2) C., 25,425
			(3) Lab., 25,172
			(4) C., 21,700
			(5) L., 7,083
Manchester (Withington)	Dr. Thos. Watts*	1	(1) C., 13,633
			(2) L., 10,435
			(3) Lab., 2,467
			(4) Ind., 236
Oxford	Dr. R. O. Moon ..	2	(1) C., 12,196
			(2) L., 6,836
			(3) Lab., 2,260
Portsmouth, North	Dr. O. Gleeson*..	2	(1) C., 17,597
			(2) Lab., 10,279
Reading	Mr. Somerville Hastings.†	2	(1) C., 21,338
			(2) Lab., 18,337
Walsall	Dr. J. J. Lynch ..	4	(1) C., 15,168
			(2) L., 12,734
			(3) Lab., 11,474
			(4) Ind., 622
Scottish Boroughs.			
Aberdeen, North ..	Dr. Laura Sandeman	2	(1) Lab., 13,249
			(2) C., 6,545
Edinburgh, East ..	Dr. Drummond Shiels	1	(1) Lab., 9,220
			(2) C., 6,105
			(3) L., 5,625
Glasgow (Kelvingrove)	Dr. W. E. Elliot†	1	(1) C., 18,034
			(2) Lab., 12,844
English Counties.			
Hertford (St. Albans)	Dr. F. E. Fremantle†	1	(1) C., 18,004
			(2) Lab., 8,682
Lancaster (Stretford)	Dr. J. Robinson..	2	(1) Const. 20,826
			(2) Lab., 11,520
Welsh Counties.			
Carmarthen (Llanelly)	Dr. J. H. Williams†	1	(1) Lab., 20,516
			(2) L., 18,257
Scottish Counties.			
Argyll	Dr. I. H. MacIver	3	(1) C., 9,240
			(2) L., 6,211
			(3) Lab. 4,532
Dumfries	Dr. W. A. Chapple†	2	(1) C., 12,718
			(2) L., 8,472
			(3) Lab., 6,342

C., Conservative. Const., Constitutionalist. L., Liberal. Lab., Labour. Com., Communist. Ind., Independent.
§ The poll will not be declared until Nov. 13th.
U., Unopposed.

FOREIGN DECORATIONS.—Dr. Arthur Ferguson MacCallan, C.B.E., formerly Director of Ophthalmic Hospitals, Egyptian Department of Public Health, has been granted His Majesty's Royal licence and authority to wear the Insignia of the Second Class of the Order of the Nile, conferred upon him by the King of Egypt in recognition of valuable services rendered.

GENERAL MEDICAL COUNCIL:
ELECTION OF DIRECT REPRESENTATIVES.

ENGLAND AND WALES.

WE published last week the election addresses of five candidates for the four vacancies on the Council. Five other nominations have now been sent in and the list is not finally closed as we go to press. The additional candidates are: Dr. HENRY JASPER CARDALE (London), Dr. HARRY FRANCOIS DEVIS (Downend, near Bristol), Dr. ROBERT FIELDING-OULD (London), Dr. EDWARD ANDREW GREGG (London), and Dr. GORDON REGINALD WARD (Sevenoaks). We have only received as yet the election address of Dr. Fielding-Ould, which runs as follows:—

DEAR SIR (OR MADAM),—Nominated as a candidate for the approaching election of Direct Representatives in the General Medical Council I have the honour to ask for your support and vote.

The ever-increasing interest and activity of the State in matters connected with Public Health will in the near future, as in the recent past, bring forward many matters of serious professional importance—matters of vital interest to the Profession as a whole, but especially to the General Practitioner.

Until we have before us the Report of the Royal Commission now sitting on National Health Insurance it is impossible to say what changes in medical affairs may result from its deliberations, but it is clear that there has never been a time in the history of Medicine when adequate representations of the General Practitioner on the ruling Council was more necessary. In my deliberate opinion four Direct Representatives in a body numbering 37 cannot be regarded as *adequate* representation.

It is my conviction that increased representation on the Council of the general mass of practitioners would be of the greatest possible advantage to the Profession as a whole, and I believe that, in these progressive days, it is necessary that the powers of the, and influence of the, Council should be increased and stand upon a broader basis so that a body truly representative of the Medical Profession may be gradually evolved.

That any group should nominate and secure the election of all four Direct Representatives is contrary to the best interests of the Profession and to the spirit of the Act of Parliament. The British Medical Association succeeded in doing this at the last Election and is seeking to repeat the manœuvre on this occasion. I submit that Direct Representation must not be regarded as the monopoly of any one organisation, as it is in danger of becoming.

My long connexion with the National Medical Union—the Non-Panel Practitioners Organisation—is a guarantee that the interests of this important section of the Profession will be safeguarded, and in the event of my election your Direct Representatives will no longer be open to the criticism in that they are representatives only of a camarilla.

The knowledge and experience gained in 30 years of public and professional life secure that as your Representative I shall be fully qualified and trained to voice successfully your opinions and advance your ideals. My legal training as a Barrister-at-Law will be an advantage in elucidating the many problems with which the General Medical Council is constantly concerned.

To watch the influences, which often by subterranean methods aim at the socialisation of the Profession and, so far as is possible and desirable, to avert their evil consequences in the interests of the whole mass of the people, shall be my constant and earnest endeavour.

The improvement and reorganisation of Medical Education I have much at heart and I shall, if given the opportunity, do all that is possible to promote and develop improved facilities for post-graduate study. The Medical Education of women shall have my special attention.

The dangers of unqualified practice must be curtailed. I submit that your Representatives should give immediate attention to this matter, and in the event of election it is my intention so to do.

Should you do me the honour of electing me as one of your Direct Representatives, it will be my firm determination to do everything in my power to maintain the efficiency and prestige of the Medical Profession and to fully justify your confidence.

ROBERT FIELDING-OULD, M.A., M.D. Oxf., M.R.C.P. Lond.,
Barrister-at-Law, Inner Temple.
9, William-street, Knightsbridge, S.W.,
October 15th, 1924.

Dr. JOHN BROWN, an independent candidate in 1919, who wrote last week that he was not standing, now writes :—

At the request of many of the Blackpool doctors I have consented to be nominated as one of the four to be elected at the forthcoming election. At the election, 1919, there were 15 duly nominated. Only those nominated by organised Medical Associations were elected. My nomination has been signed, and I hope to publish my address in due course in the medical papers. I have no Committee, nor any funds but my own. It is felt that Lancashire ought to have one of the four. The population is about 5,000,000, and there are about 4000 electors. I am a Member of the British Medical Association and my appeal is also to those of the 14,000 who are non-members whose free and independent suffrages I seek. My experience is panel and general practice ; also as Medical Officer of Health from 1877 to 1914 for the Borough of Bacup, Poor-law, Post Office, School M.O., &c., are proofs of my general knowledge.

JOHN BROWN, M.D., D.P.H.

Hornby-road, Blackpool, Nov. 3rd, 1924.

IRELAND.

Dr. LEONARD KIDD, who has been Direct Representative for Ireland since 1906, has addressed the following letter to the registered medical practitioners of Ireland :—

LADIES AND GENTLEMEN,—You are probably aware that owing to the establishment of the Irish Free State the relations of Irish Medical Practitioners to the British Medical Register and to the General Medical Council are in suspense, and that unless the Free State and Imperial Governments agree that the old relations of Irish Medical Practitioners to the British Register and General Medical Council shall be resumed and continued "the relations and responsibilities of the General Council of Medical Education and Registration of the United Kingdom in future will be restricted to Great Britain and Northern Ireland. The Universities and Licensing Bodies and the Medical Practitioners of Southern Ireland will no longer be entitled to representation on the Council. The Medical qualifications granted in the Irish Free State will no longer entitle the holders to be registered in the British Register."

In order to provide further time for consideration of the matter the Dail has introduced a Bill to arrange for the continuance of the old conditions and relations for a year. If the Free State at the end of the year decide to establish their own Medical Register and Council, the Direct Representative elected in November would presumably be in office for one year only (instead of the normal five years), but if on the other hand it is decided to resume the old relations, the election in November would be for the full period of five years.

My term of office as Direct Representative for all Ireland expires on Dec. 31st, 1924. In compliance with the Medical Acts the election of my successor thus rendered necessary must be in November, 1924.

Owing to the expense incurred to the Irish Branch Council, it is desirable there should not be a contested election in November, 1924, and possibly others in November, 1925, for a Representative on the Free State Council, and in Northern Ireland for a Representative on the British General Council.

It has been suggested to me that I should offer myself for re-election in November, 1924, even on the chance that my term of office would be for one year only. This I am prepared to risk, and wish to add that if there is only one other candidate nominated, in order to avoid a contested election, I am prepared to withdraw if a majority of my nominators so desire, but if more than one other candidate is nominated a contest could not be prevented and I shall remain a candidate.

Subject to the above conditions the following have kindly consented to nominate me :—

In Dublin.—Sir John Moore, Sir E. C. Bigger, Dr. J. O'Carroll, Dr. T. Nesbitt, Sir T. Myles, Dr. L. Cassidy, Dr. Seton Pringle, Dr. T. Gordon, Sir A. Chance, Dr. H. Drury, Dr. J. Spears, Dr. E. Magennis, Prof. D. J. Coffey, University College, Prof. A. F. Dixon, Dublin University, Sir Robert Woods, Dr. Walter G. Smith, Dr. H. Bewley.

In Belfast.—Colonel A. Fullerton, C.B., Dr. G. Robb, Dr. W. Caldwell, Dr. H. P. Malcolm, Dr. R. W. Leslie, Colonel T. I. Sinclair, C.B., Dr. H. L. MacKisack, Dr. J. Campbell, Dr. J. A. Craig, Prof. W. J. Wilson.

In the Provinces.—Dr. T. Tate, Downpatrick : Dr. Macbride, Castlebar ; Dr. Warnock, Donegal ; Dr. Mills, Ballinasloe ; Dr. Johnston, Lisburn ; Dr. Thompson, Omagh ; Dr. Meagher, Tullamore ; Dr. Dennis Walshe, Graigue ; Dr. Darling, Lurgan.

Instead of issuing an address which might in present circumstances have the undesired effect of introducing controversial matters, I have decided to refer very briefly to the Constitution and duties of the Council, matters of which many medical practitioners have little knowledge, they and the public often confusing it with the Council of the British Medical Association.

[Here follows a brief sketch of the duties of the General Medical Council in respect of education, registration, discipline, and the British Pharmacopœia concluding : "The Council is neither a Parliament for making professional laws, nor a Union for professional interests. It exists solely for the safeguarding and protection of the public."]

To members of the Poor-law and other Medical Services it may seem disappointing that I make no reference to the disabilities under which they serve, their inadequate salaries, the want of superannuation, the need for an M.O.H. for each county, and so forth. These are all matters that have my entire sympathy, and I can claim to have taken no small part in having them brought under public notice and to have done my best to assist in their redress. They are, however, matters quite outside the functions of the General Council and I have therefore now, as in my former contested elections, refrained from reference to them—indeed to suggest that the Council could mitigate the disabilities complained of would be mere deception. The remedy lies not through the Medical Council but by every practitioner in Ireland joining one or other of the Medical Associations now so badly supported.

L. KIDD, M.D.,
Past President, Irish Medical Association
and of the Ulster Branch B.M.A.

Enniskillen, October, 1924.

ROYAL MEDICAL BENEVOLENT FUND.

AT the last meeting of the committee of this Fund 57 cases were considered and £673 voted to 47 applicants. The following is a summary of some of the new cases relieved :—

Widow, age 45, of M.D. Edin. who practised in Leeds and died from influenza and pneumonia after two days' illness this year. Applicant is left with three boys, ages 11, 6, and 3. Her total income is £140 per annum from investments and £5 per week from two paying guests. She is very anxious about the children's education and asks the Fund to help with school fees for the second boy. A small grant was made and the case handed over to our Guild.

Daughter, age 50, of L.R.C.P. and S. Edin. who practised in Flint and died in 1915. Applicant is asking the Fund to help her, as owing to lack of work and often not having the means to seek work or materials to do fresh work for sale she is handicapped. She is an artist and was employed by a motor firm which unfortunately failed, thus throwing her out of employment. Her rent is 13*s.* 6*d.* per week. From January to April she managed to make £1 per week but since it has only been 10*s.* Voted £10.

Widow, age 61, of F.R.C.P. Edin. who practised in Middlesex and died in August last. The practice was chiefly a panel one and the applicant received £200 for the goodwill, but after paying expenses only £15 is left. An annuity of her late husband's died with him and she has only £26 per annum. Voted £5.

Daughter, age 79, of M.R.C.S. Eng. who practised at Chelmsford and died in 1866. Applicant has cataracts in both eyes and has fractured her left wrist. This case was sent to the Fund by The Gentlefolks Help, who are only able to help temporarily by making her income up to £1 per week. She receives £7 10*s.* from investments and the Old Age Pension. Voted £5.

Widow, age 46, of M.R.C.S. who practised near Sheffield and died in 1913. While her three children are at school the applicant undertakes private nursing, but she finds it difficult to pay for the education of her youngest girl, aged 11, who, up to last term, had her school fees paid by a friend. This help has now ceased. The last 12 months applicant received £130 from friends, £41 from investments, £25 from nursing. Voted £12 10*s.* and referred to our Guild for a supplementary grant.

Daughter, age 79, of M.R.C.S. Eng. who practised in Surrey and died in 1871. Through the failure of a boarding house which applicant had taken she lost all, including the furniture. Only income the Old Age Pension and her rent is 3*s.* per week. Voted £30 in 12 instalments and a special grant of £5.

Daughter, age 47, of M.R.C.S. Eng. who practised in Surrey and died last month. Applicant's late father was in receipt of a Fund annuity of £30. Applicant suffers from ill-health caused by spinal curvature, and weak heart succeeding 2 years St. Vitus's dance. Quite unable to work and dependent on sister who is an artist. They hope to carry on the house and have boarders. Voted £20 in two instalments.

Subscriptions may be sent to the honorary treasurer, Sir Charters Symonds, K.B.E., C.B., M.S., at 11, Chandos-street, Cavendish-square, London, W. 1.

Royal Medical Benevolent Fund Guild.—The offices and workrooms of the Guild have been moved to 58, Great Marlborough-street, London, W. 1, where parcels of clothing, &c., will gladly be received.

Correspondence.

"Audi alteram partem."

THE LEAGUE OF REMEMBRANCE (1914–1919).

To the Editor of THE LANCET.

SIR,—On this, the sixth anniversary of the Armistice, it gives us great pleasure to testify to the activities of the League of Remembrance (1914–1919). Having now had several years of experience of the work of the League, we are in a position to form an opinion of its usefulness. It confers practical benefits to all institutions connected with the health of the nation which care to seek its assistance. This opinion is based not only on an inspection of the work carried on at the League of Remembrance, but also on our practical experience from the hospital point of view of its value in the work of the wards. Hospitals, infant welfare centres, and organisations of a similar kind have only to send materials and pattern, and the League makes them up into the finished article required, without making any charge for its services. We have personally inspected the workrooms; the specially equipped department in which the surgical dressings are made receives our warmest commendation, as also do the hygienic and aseptic principles which are exercised throughout the whole establishment. We can, moreover, testify to the promptitude, accuracy, and excellence with which the work is performed. The League of Remembrance, a continuation of the War Hospital Supply Depot movement, is, we believe, the only institution of the kind in the world. It has proved of great service to the hospitals and the number of appeals for help is continuously increasing. These appeals are straining its present resources to the utmost, and we strongly recommend to public inspection and support this organisation, which has taken as an integral part of its business of remembering, the relief of the sick and suffering. All communications should be addressed to Mrs. E. H. Gibson, C.B.E., Honorary General Manager, League of Remembrance (1914–1919), 1, Marlborough Gate, London, W. 2.

We are, Sir, yours faithfully,

WILLIAM ARBUTHNOT LANE.	ALFRED J. RICE-OXLEY.
ARTHUR SLOGGETT.	H. J. F. SIMSON.
ROBERT HILL.	JOHN MURRAY.
JAMES PURVES-STEWART.	C. KNOX-SHAW.
ALFRED FRIPP.	R. H. JOCELYN SWAN.
JOSEPH SKEVINGTON.	HERBERT SMALE.
ROBERT JONES.	LESLIE PATON.
FRANK COLYER.	MARIAN VAUGHAN.

November, 1924.

PRURITUS ANI.

To the Editor of THE LANCET.

SIR,—Dr. Louis Savatard in his very interesting and practical article on the treatment of this affection rightly insists on the importance of determining, in every case of anal pruritus, its ætiology before starting the treatment. I should like to call attention to a type of pruritus which is not mentioned in Dr. Savatard's paper—namely, pruritus of mycotic origin, which I described[1] some time ago. During the last 12 years I have had the opportunity of examining and investigating 54 cases of pruritus ani, and in 11 of them I have grown cultures from scrapings of the ano-perianal region, using mycological methods of cultivation—*Epidermophyton cruris* Castellani 1905 (*E. inguinale* Sabouraud 1907), in eight cases; *E. rubrum* Castellani 1909, in two cases; and a *Trichophyton* not yet classified in one case.

These fungi apparently remain dormant in the ano-perianal region for a long time, causing severe pruritus, but practically no objective symptoms; though if the region is examined carefully, minute, slightly raised, red, infiltrated patches may not rarely be seen. An eczematous dermatitis due to scratching may also develop, and a secondary streptococcic infection may become engrafted on the mycotic condition. This mycotic type of pruritus ani may be compared with the well-known pruritus interdigitalis pedum of mycotic origin, in which the pruritus is very severe, though objective signs of an epidermophyton infection are often absent. None of my cases presented active symptoms of Dhobie itch (tinea cruris) of the inguinal region, but six gave a history of having suffered from it some years previously; two of the cases were suffering from pruritus interdigitalis pedum and in both cases *E. cruris* was isolated from the scrapings of the skin of the toes.

In my experience pruritus ani of mycotic origin has no tendency to spontaneous cure. The fungus remains in the perianal region indefinitely, practically dormant, but giving rise to severe pruritus, which, however, may stop completely for certain periods of time. As regards treatment I have found that silver nitrate is fairly efficacious (arg. nitr. gr. xv., spir. æther. nitr. ʒi.); but it should be applied with great care. An ointment containing 2 gr. of chrysarobin to the ounce of vaseline is sometimes effective. This, too, should be used with great care. Painting the parts with a strong lotion of potassium permanganate (gr. xxx. to water ʒi.) is useful in certain cases, also an ointment containing salicylic acid and sulphur (gr. xv. of each to one ounce of vaseline). When an eczematous dermatitis due to scratching is present with severe acute symptoms of inflammation, a soothing treatment should be used first, such as lead lotion, to be followed by the anti-mycotic measures when the acute symptoms have disappeared. In two recent cases I have obtained excellent results by using the Dhobie itch ointment, first introduced by my friend, Dr. W. E. Deeks, medical manager of the United Fruit Company of America. The formula is as follows: Salicylic acid 4 parts, bismuth subn. 10, mercury salicyl. 4, oil of eucalyptus 10, vaseline and lanolin sufficient to make up to 100 parts.

It is interesting to note that Dr. Deeks found long ago that this Dhobie itch ointment had a very beneficial effect in many cases of pruritus ani, although the existence of a mycotic type of pruritus was not known at that time. I am, Sir, yours faithfully,

London, W., Nov. 3rd, 1924. ALDO CASTELLANI.

[1] Brit. Med. Jour., 1923, ii., 1040.

SPIRITUAL HEALING.

To the Editor of THE LANCET.

SIR,—The conclusion of your interesting leader with this title would seem to be that if "cures" occur, then there can be no question but that they are produced by "emotional" rather than "spiritual" factors; that the cases so cured are none other than neuroses, and the average medical man "can by ordinary techniques effect identical cures himself." You support your thesis by bringing forward the supposed cures wrought by Mormonism, Dowieism, &c., and your article would seem to be inspired by the recent Anglican demonstrations of spiritual healing at Bradford. Surely it is somewhat strange to base the conclusion of your article on such facts and neglect the largest religious body in the world, the Catholic Church, which from the very earliest times has claimed that definite cases of true "spiritual healing" do occur.

There is excellent evidence for the cure of cases which cannot possibly be reckoned as functional. Take, for instance, the celebrated case of De Rudder Oostacker in Belgium who was cured on April 7th, 1875, of an ununited fracture of the left leg which had existed for more than eight years; or that of Marie Borel at Lourdes in 1907, in whom six pyostercoral fistulæ existing in the right lumbar region, through which for five months before going to Lourdes the whole contents of the intestinal canal passed, healed there in less than 48 hours. The evidence for these two cases as well as others equally good can be found in the English translation of Dr. Le Bec's book,

"Medical Proof of the Miraculous," published by Harding and More. About the former, Sir Bertram Windle, M.D., F.R.S., recently wrote: "I am convinced that the evidence is as conclusive as can possibly be obtained in any case where human beings are witnesses, and in another line would hang the most respected man in England for murder." Again, each year some processes of canonisation occur at Rome. For canonisation four miracles have to be proved as having occurred after death at the intercession of the person canonised; these cases are submitted to an exceedingly strenuous medical examination, the best medical expert evidence available being used.

The whole question of miraculous cures rests on the validity of the evidence, but to discuss the matter of spiritual healing and leave out Catholic evidence is surely analogous to playing Hamlet and eliminating the Prince of Denmark.

I am, Sir, yours faithfully,

DOM FRANCIS IZARD, O.S.B., M.R.C.S., L.R.C.P.
Abbaye de St. Benoit, Maredsous par Maredret, Prov. de Namur, Belgique.

*** The points courteously raised by Dom Francis Izard were discussed in a leading article in THE LANCET of 1920, ii., 307, and in a review of the English version of Dr. Le Bec's book in THE LANCET, 1922, ii., 331.—ED. L.

THE DEGREE OF M.D. BRUSSELS.

To the Editor of THE LANCET.

SIR,—I have recently returned to London from Brussels, and have had several interviews with the University authorities, in order to discuss the reopening of the "Scientific" Degree of M.D. Brussels to foreign graduates, with the following result: All candidates, however well qualified, will be required to submit their degrees or diplomas for consideration to the Secretary of the University and be prepared to spend at least one year at the University, attending the lectures, clinics, and practical work before being allowed to enter for the examinations. These are conducted in French, and there are no papers. The standard of the "Scientific" M.D. is exactly the same as the "Legal" M.D. obtainable only after seven years' residence, but it does not carry with it the right to practise in Belgium. Each case will therefore be judged on its own merits. To give an example: if the candidate held the diploma of M.R.C.P. Lond. or F.R.C.S. Eng., he would only be required to put in nine months residence in Brussels, but if he was the holder of an Indian diploma he might have to put in two or even three years residence according to the standard of the diploma he submitted for consideration by the University authorities. The fees for the year are: Courses, 525fr.; examinations, 110fr.; laboratory fees, 250fr. The degree of M.D. Brussels is thus within the reach of any candidate qualified to practise in his own country, who will learn French, and put in nine months residence at the magnificent University which has just been opened in Brussels.

I would be glad to render assistance in negotiating with the University to any candidate who is desirous of entering for the examinations under these new conditions.

I am, Sir, yours faithfully,

ARTHUR HAYDON, M.D. Brussels,
Hon. Secretary, the Brussels Medical Graduates' Association.
10, Sussex-gardens, Talbot-square, Hyde Park, W.2, Nov. 4th, 1924.

DENTAL DRESSERS.

To the Editor of THE LANCET.

SIR,—Relying on a Board of Education report which four years ago discussed the Dental Acts Committee, I appear to have been led into an under-estimate of the number of dentists. Sir George Newman there stated: "For all practical purposes there are some 3000 practising dentists in England and Wales, distributed unequally and mainly concentrated in towns." It appears that there are now over double that number fully qualified in every respect, and as many again whose qualification is shown by the fact that their names are on the Register.

The number of dentists, however, is one of the relative "trivialities" to which I referred in my previous letter. It has little to do with the dental hygienist as a promising advance in social care from the standpoint of the educational administrator. He seeks what I have called the maximum result in public health at the minimum cost, and is asking whether it is necessary to employ officers who have gone to the cost in money and time of a full training in all the possibilities of disease and disorders of the teeth and their substitutes, and the greater part of whose acquirements will be lost to the community if wholly employed in the routine work of school dentistry.

The suggestion is that the routine, which is at least nine-tenths of hygienic dental instruction and care of school-children, according to the instructions of the dental and medical staff, can be rendered cheap and accessible to all, by training for a short time, and only for the special purpose, these dental nurses or hygienists who can be trusted to do the routine work on their own responsibility and to refer unusual cases to the dentist. Further, it may be asked are there any risks which are numerous or serious enough to negative this work in the form which Dr. Barwise suggests? That is the real topic for discussion. At present it has not been discussed, and administrative action which many, including myself, think entirely unjustified, holds up a great advance. It would be worth while if some of the objectors would set out the grounds of their objection fully and completely.

I am, Sir, yours faithfully,

JAMES KERR.
Mecklenburgh-square, W.C., Nov. 2nd, 1924.

TREATMENT OF HÆMORRHOIDS BY PITCH TAKEN INTERNALLY.

To the Editor of THE LANCET.

SIR,—From Dr. Webber's note on this subject in THE LANCET of August 9th it would appear that the value of this practice is not generally recognised. I became acquainted with the use of pitch for this purpose more than 40 years ago. Since then I have constantly employed this treatment in nearly all such cases that presented themselves to me, and the result has been almost invariably successful and the improvement so rapid that, as a rule, troublesome symptoms have disappeared in a week or ten days. As far as I know, relapses and recurrences have not taken place and very few, if any, have required an operation afterwards. I am accustomed to prescribe pitch—i.e., *Pix liquida* (Stockholm tar) with an equal weight of powdered liquorice in 5-gr. pills, three or more to be taken daily. I find that Meadow's "Prescriber's Companion (1886)" says that capsules of *Pix liquida* are used extensively on the continent for hæmorrhoids and cystitis. This book also gives a pil. picis similar to mine, but it is not clear whether it is made of *Pix burgundica* or *Pix liquida*, and no uses are given. It would be interesting to know whether there is any difference in the action of pitch (as apparently administered to Dr. Webber) and *Pix liquida*. I am told by seafaring men that Stockholm tar is often employed as a local application for piles at sea. Is it too vague a speculation to suppose that the use of pitch and tar for this complaint is of maritime origin? Notwithstanding the tough insides of hardened sailors, the constant use of very coarse food in the protracted voyages of former days must have made piles a very common complaint, and this must have led to the accidental discovery, something after the manner of the Chinaman and roast pig, of a remedy close at hand. I should like to add that I find cold water and glycerine much more useful and pleasant for local application than the standard ung. gallæ c. opio.

I am, Sir, yours faithfully,

F. LUCAS BENHAM, M.D., M.R.C.P.
Semaphore, S. Australia, Sept. 26th, 1924.

Medical News.

UNIVERSITY OF LONDON.—The second of four lectures on Enzymes will be given by Prof. John Mellanby, M.D. (Professor of Physiology in the University), at St. Thomas's Hospital Medical School, Albert Embankment, S.E. 1, at 4.30 P.M., on Thursday, Nov. 13th. The remaining two will be given on Nov. 20th and 27th respectively.

The Schorstein Memorial Lecture will be delivered by Sir Arthur Keith, F.R.S., on Wednesday, Dec. 17th, at 4.15 P.M., in the Anatomical Theatre of the London Hospital Medical College, Turner-street, Mile End, E. 1. The subject is the Clinical Importance of the Bulbus Cordis. The lecture will be illustrated by lantern slides. Members of the medical profession are invited to attend.

Sir Cuthbert S. Wallace has been elected Dean of the Medical Faculty of the University of London for the period 1924–26.

University College Hospital.—Three lectures on the History of Medicine will be delivered at the Hospital Medical School, Gower-street, W.C. 1, by Dr. Charles Singer on Thursdays, Nov. 20th and 27th, and Dec. 4th, at 4.15 P.M. The subjects are: (1) Recent Light on the Origin of Syphilis; (2) the Beginning of Anatomical Study; (3) the Scientific Work of Robert Koch. The lectures are open to all medical students of the University of London.

UNIVERSITY OF BRISTOL.—At a special Final Examination for the degrees of M.B., Ch.B., Part II. (Forensic Medicine and Toxicology only), completing examination, Robert H. Dummett was successful.—At a special Final Examination for the diploma in Dental Surgery the following candidates were successful: William B. Bowrey, William H. Greet, Daniel Griffiths, Cyril H. Hill, and William H. Phillips.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.—An ordinary Comitia of the College was held on Oct. 30th, the President, Sir Humphry Rolleston, being in the chair. —The following candidates, having passed the required examination, were admitted as Members of the College: Drs. Stanley Batchelor, Davis E. Bedford, Jyotish Chandra De, William D. Forrest, Malcolm K. Gray, Anis Salama, Kenneth J. L. Scott, and Terence W. Turner.—Licences to practise physic were granted to 245 candidates who had conformed to the by-laws and regulations and passed the necessary examinations. The following are the names and schools of the successful candidates:—

C. H. Ackroyd, Leeds; F. N. Adams, St. Bart.'s; Iris I. G. Adams, St. Mary's; C. Adamson, Cambridge and Durham; B. Adlington, King's Coll.; G. L. Alexander, St. Bart.'s; A. J. Amor and S. M. Anderson, Middlesex; T. F. Anderson, Cambridge and Univ. Coll.; L. V. Angel and H. Aukland, Liverpool; Georgette Bachrach, Univ. Coll.; J. M. Bailey, St. Thomas's; H. C. J. Ball, St. Bart.'s; G. W. Bamber, Cambridge and Univ. Coll.; L. J. Barford, Oxford and Guy's; Alison E. M. Barnaby, Royal Free; C. F. J. Baron, St. Bart.'s; R. M. Barron, St. Thomas's; S. A. Beards, London; L. F. Beccle, Guy's; A. E. Beith, St. Bart.'s; P. C. Bennison, S. Berman, and E. H. J. Berry, Guy's; A. G. Bewes, St. Thomas's; H. E. Blake, Guy's; R. H. Boggon and A. J. S. L. Boyd, St. Thomas's; W. H. Bradfield and J. H. Broadhead, Guy's; G. C. W. Brown, E. Buchler and G. H. Buncombe, St. Bart.'s; N. F. C. Burgess, Guy's; M. Byala, Liverpool; A. Canard, Cape and Guy's; T. E. Cawthorne, King's Coll.; P. F. Chandler, London; W. T. R. Chapman and F. W. Charman, King's Coll.; K. R. Chaudhri, St. Mary's; W. J. B. Chidlow, Liverpool; Florence C. Churcher, Univ. Coll.; S. Cleman, Toronto and Guy's; T. A. Clarke, Liverpool; E. E. Claxton, St. Bart.'s; I. Cohen, Univ. Coll.; W. R. F. Collis, King's Coll.; W. S. C. Copeman, St. Thomas's; J. W. E. Cory, King's Coll.; A. B. Cowley and B. W. Cross, St. Bart.'s; B. Crosthwaite, Durham; W. I. Daggett, King's Coll.; A. A. Dalby, Guy's; A. F. C. Davey, Manchester; D. Davies, Guy's; D. J. Davies, Middlesex; E. W. P. Davies, Cardiff and Westminster; L. F. Davies, Guy's; Kathleen Davies, Charing Cross; F. M. Deighton, Univ. Coll.; G. W. S. de Jersey, St. Thomas's; P. H. Diemer, St. Bart.'s; J. M. Dobie, St. Thomas's; W. A. Drake and C. S. Drawmer, St. Bart.'s; J. Dreadon, Otago; W. A. D. Drummond, Dundee; G. D. Drury, St. Bart.'s; H. A. Dunlop, Westminster; J. D. Durance, St. Mary's; S. F. Durrans and D. F. Durward, Guy's; H. C. Edmunds, King's Coll.; J. T. R. Edwards, St. Bart.'s; Josephine O. Ellen, Charing Cross; J. B. Ellison, St. George's; Marguerite Elman, St. Mary's; H. G. English, Univ. Coll.; A. J. Enzer, St. Bart.'s; J. A. Evans, Sheffield and Charing Cross; J. P. Evans, St. Mary's; Sarah Evans, Charing Cross; W. Evans, London; W. G. Evans, St. Mary's; N. J. Everard, Sheffield; S. A. M. Fam, King's Coll.; W. J. C. Fenton, F. E. Fox, and D. Frost, London; G. A. Fulton, Liverpool; J. H. Gaddum, Univ. Coll.; H. C. Gage, St. Mary's; J. A. Galletly, Middlesex; J. Gaughan, Liverpool; M. Geaney, Sydney and Middlesex; N. T. Glynn, Liverpool; S. Goldstein, Westminster; Minnie Gosden, London; B. Green, Charing Cross; F. G. Greenwood, St. Bart.'s; Elsie C. Griffin, Madras and Charing Cross; H. F. Griffiths, London; J. I. Griffiths, Univ. Coll.; J. F. Hamber, King's Coll.; A. C. Hampson, Guy's; C. L. Harding, St. Bart.'s; H. E. Hargreaves, Charing Cross; Iris M. Harmer, Univ. Coll.; W. E. Heath, St. Thomas's; Margaret R. Hereford, Royal Free and St. Mary's; W. A. Hervey, St. Bart.'s; A. H. Heyworth, Manchester; F. Hoffstein, Charing Cross; J. G. Hume, St. George's; W. E. Hunter, Manchester; D. S. Huskisson, Guy's; H. V. Ingram, Durham; Adele H. Jacob, Royal Free; H. N. James and Beatrice Jervis-White-Jervis, St. Mary's; H. A. Johnson, Birmingham; R. S. Johnson, St. Bart.'s; I. L. Johnstone, Toronto and Middlesex; Enid M. Jones, Cardiff; F. M. L. Jones, London; J. D. Jones, Liverpool; R. D. Jones, Middlesex; R. M. Jones, Guy's; Doris E. Joscelyne, Bristol; W. E. Joseph, St. Thomas's; H. Joules, Middlesex; C. J. Jowett, Manchester; R. P. S. Kelman, Middlesex; C. E. Kilminster, St. Thomas's; A. J. King and G. King, London; J. F. L. King, St. Bart.'s; F. H. K. Knight, Guy's; Marjorie E. Knowles, Leeds; Nancy T. Lancaster, Univ. Coll.; R. L. Lancaster, London; S. W. Lane, St. Mary's; Mary K. Lawlor, King's Coll.; C. H. Lee, London; Nora Leesmith, St. Mary's; J. Leitch, Charing Cross; T. C. Lewis, St. Bart.'s; E. I. Liberman, Guy's; K. S. Lim, Hong-Kong and Univ. Coll.; D. T. Lloyd, St. Bart.'s; E. O. Lloyd and W. E. Lock, Middlesex; G. K. Loveday, St. Bart.'s; M. F. B. Lynch, London; L. H. Macdonald, Birmingham; H. B. Macevoy, St. Thomas's; D. M. Mackay, Calcutta and Middlesex; R. R. Mackenzie, Guy's; H. Maclachlan, Guy's; R. B. McVicker, St. Thomas's; J. L. B. Marais, St. Bart.'s; G. R. Marcano and D. P. Marks, St. Thomas's; F. March, Guy's; F. Martyn, London; Gertrude M. Mayhall, Leeds; J. D. Mills, Oxford and St. Thomas's; F. G. Mogg, Bristol; Frances C. Nicklin, C. T. Norris, and T. J. O'Donnell, London; G. C. B. Oliver, St. Mary's; L. E. Owen, Guy's; W. B. Owen, Middlesex; M. Y. Paget, Univ. Coll.; T. B. Pahlajani, Bombay and Charing Cross; A. E. G. Parry, Birmingham; Sybil de H.-R. Pattison, London; M. A. Paul, King's Coll.; C. E. Pearsons, St. Bart.'s; Annie Pichaimuthu, Madras; P. J. J. Pienaar, Cape and St. Thomas's; J. E. Piercy, Alberta and Guy's; B. Pollard, Middlesex; F. D. S. Poole, St. Bart.'s; Beatrice M. Powell, Royal Free and Charing Cross; C. V. Powell, Bristol; L. N. Pyrah, Leeds; Violet A. Quilley, Royal Free; S. Rachmantzik, Middlesex; F. C. Read, King's Coll.; S. F. Reynolds, Charing Cross; W. Richards, St. George's; D. Riley, St. Thomas's; W. G. Roberts, Guy's; C. H. H. Robertson, London; A. B. Robinson, St. Thomas's; W. F. Roper, Guy's; Annie E. G. Rowlands, Univ. Coll.; G. Sabhapati, Madras; J. H. Saint, Durham; F. R. Sandford, Cambridge and Middlesex; H. B. Savage, St. Bart.'s; F. W. Schofield, Guy's; C. M. Scott, Charing Cross; W. G. Sears, Guy's; J. Sevi, Montpellier and Charing Cross; H. R. Shone, Liverpool; J. H. Simpkiss, Birmingham; D. A. Skan, Guy's; H. Smith, Cardiff and St. Bart.'s; R. F. Smith, Guy's; L. Spira, Prague and Middlesex; Betty Stainer, King's Coll.; R. Stanford, London; L. Statnigrosch, Vienna and Middlesex; H. H. Steadman, Guy's; J. Stein, Univ. Coll.; J. A. F. Storrs, St. Bart's; Grace M. L. Summerhayes, Royal Free; A. Swain, Birmingham; Victoria W. Symonds, Cambridge and St. Mary's; R. C. Tatham, Middlesex; E. W. P. Thomas and G. W. R. Thomson, St. Thomas's; C. H. C. Toussaint, Guy's; H. Treissman, St. Bart.'s; Bertha Turner, Royal Free; J. H. M. Walker, Univ. Coll.; J. Wallman, London; S. E. Walmsley, St. Bart's; E. J. Warburton, Manchester; C. A. Wells, Liverpool; B. G. Wheatley, Middlesex; H. D. E. Whitman, Cardiff; C. H. Wight, St. Bart.'s; G. Wignaraja, Ceylon and Middlesex; E. R. P. Williams, Univ. Coll.; H. K. Williams and F. A. Wilson, Guy's; and Ellen Wirtz, Royal Free.

Communications were received from: (1) The Secretary of the Royal College of Surgeons, reporting proceedings of the Council of that College on July 31st and Oct. 9th, 1924. (2) The Director-General of the Medical Department of the Admiralty, dated Oct. 1st, reporting that the Gilbert Blane Medal has been awarded to Surgeon Lieut.-Commander H. B. Padwick, D.S.O., R.N.

Admission of women to the Fellowship: It was resolved for the first time that alterations in By-law No. 194 be made, permitting the admission of women to the Fellowship of the College. This alteration will require to be passed a second time at a subsequent Comitia before it becomes effective.

Dr. W. S. A. Griffith drew attention to a paragraph in the Supplement to the *British Medical Journal* of Oct. 4th, 1924, relating to an instruction by the American Immigration Authorities that persons who desire to emigrate from this country to the United States must be examined by medical practitioners who are members of the British Medical Association. After some discussion, in which Dr. R. A. Bolam took part, it was resolved that the attention of the President of the General Medical Council should be drawn to the injury which the proposed arrangement would inflict on medical practitioners who are not members of the Association. They would be precluded from giving medical certificates even to intending immigrants who were their own patients.

A report was received from Dr. Drewitt, concerning the Chelsea Physic Garden. This was entered on the minutes.

The President announced the award, by the Royal College of Surgeons, of the Jenks Scholarship for 1924 to Mr. A. R. C. Higham.

A report was received from the Committee of Management, dated Oct. 7th, as follows :—

I. The Committee report to the Royal Colleges that the following Institutions have been recognised for the course of instruction for the several special Diplomas :—

1. *For the Diploma in Ophthalmic Medicine and Surgery* :—(*a*) For complete courses, under paragraph V. of the Regulations : The Royal Eye Hospital, Manchester ; St. Paul's Eye Hospital, Old Hall-street, Liverpool ; the Glasgow Eye Infirmary, Berkeley-street, Glasgow. (*b*) For partial courses, under paragraph V. (*a*), (*b*), and (*c*) of the Regulations : The Royal Infirmary, Hull.

2. *For the Diploma in Psychological Medicine* :—(*a*) For resident, or whole-time, appointment for six months, or for clinical instruction for 12 months : The Maudsley Hospital, Denmark-hill, S.E. 5 ; Bloemfontein Mental Hospital, South Africa ; Grahamstown Mental Hospital, South Africa ; Pietermaritzburg Mental Hospital, South Africa ; Pretoria Mental Hospital, South Africa ; Valkenberg Mental Hospital, South Africa.

3. *For the Diploma in Laryngology and Otology* :—(*a*) For complete courses, under paragraph V. of the Regulations : The Central London Throat, Nose, and Ear Hospital, Gray's Inn-road, W.C. 1 ; Hospital for Diseases of the Throat, Golden-square, W. 1 ; Metropolitan Ear, Nose, and Throat Hospital, Fitzroy-square, W. 1 ; Birmingham and Midland Ear and Throat Hospital, Edmund-street, Birmingham ; Liverpool Eye and Ear Infirmary, Myrtle-street, Liverpool ; University of Liverpool Clinical School, Rodney-street, Liverpool ; Manchester Ear Hospital, Grosvenor-square, All Saints, Manchester ; Royal Eye and Ear Hospital, Hallfield-road, Bradford ; Royal Devon and Exeter Hospital, Exeter ; Portsmouth and Southern Counties Eye and Ear Hospital, Pembroke-road, Portsmouth.

II. The Committee report to the Royal Colleges the retirement by rotation from the Committee, under the conditions of paragraph VI., Part I., of the scheme for constituting the Examining Board in England, of Sir William Hale-White and Mr. W. G. Spencer.

Sir William Hale-White was reappointed a Member of the Committee of Management.

Books and other gifts presented to the Library during the past quarter were received and thanks returned to the donors. After some other formal College business the President declared the Comitia closed.

A reception will be held at the College, Pall Mall East, S.W. 1, on Wednesday, Nov. 12th, at 8.30 P.M., to commemorate the 300th anniversary of the birth of Thomas Sydenham. Sir Humphry Rolleston, the President, will deliver a short address.

SOCIETY OF APOTHECARIES OF LONDON.—At recent examinations the following candidates passed in the subjects indicated :—

Surgery.—J. O. W. Bland, St. George's Hosp. ; E. F. Hottinger, St. Mary's Hosp. ; W. R. S. Jaecques, Ghent ; J. P. McGuire, St. Mary's Hosp. ; A. J. Moody, St. Bart.'s Hosp. ; C. M. Moody, St. Mary's Hosp. ; W. E. Pennington, Liverpool ; and C. J. Rozario, St. Thomas's Hosp.

Medicine.—H. L. Bernstein, Guy's Hosp. ; J. O. W. Bland, St. George's Hosp. ; L. K. Htoe, London Hosp. ; R. D. Jones, Edinburgh and Middlesex Hosp. ; K. Samaan, Cairo and Manchester ; and R. Schofield, Guy's Hosp.

Forensic Medicine.—A. Kaplan, St. Mary's Hosp.

Midwifery.—T. G. L. Davies, St. George's Hosp. ; B. M. Francis, Guy's Hosp. ; L. K. Htoe, London Hosp. ; P. B. P. Mellows, St. Bart.'s Hosp. ; C. M. Moody and A. B. Osbourne, St. Mary's Hosp. ; B. A. Perott, Petrograd ; C. J. Rozario, St. Thomas's Hosp. ; and K. Samaan, Cairo and Manchester.

The Diploma of the Society was granted to the following candidates entitling them to practise medicine, surgery, and midwifery : H. L. Bernstein, J. O. W. Bland, L. K. Htoe, W. R. S. Jaecques, R. D. Jones, W. E. Pennington, and R. Schofield.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.—The following candidates have passed the Final Dental Examination and have been granted the diploma L.D.S. R.C.S. Edin. :—

Moss M. Bronstein, Andrew Wilson, James L. Jacques, James D. Edminson, Patrick F. D. Delaney, Percy Taylor, Percival F. Hutton, James Hogg, Agnes J. Dalziel, Robert Scott, George S. Robertson, Ernest Lange, John C. Adams, William H. Phimister, Arthur B. Sykes, Walter Ingles, Alfred J. Brown, James M. Coutts, and William L. Graham.

The following candidates passed in the subjects indicated :

Pathology.—Margaret I. MacTaggart, John J. Seaton, and Peter Adair.

Medicine.—Margaret I. MacTaggart and Peter Adair.

Surgery.—Margaret I. MacTaggart, John J. Seaton, and Peter Adair.

WEST KENT MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society will be held at the Miller General Hospital, Greenwich, S.E. 10, on Friday, Nov. 14th, at 8.45 P.M., when Dr. J. S. R.sien Russell will deliver an address on the Value of the Reflexes in Diagnosis.

MEDICAL SOCIETY OF LONDON.—The second David Lloyd Roberts lecture will be delivered by Dr. Herbert R. Spencer on the Renaissance of Midwifery, illustrated by books and lantern slides, on Wednesday, Nov. 19th, at 5 P.M., at 11, Chandos-street, Cavendish-square, W. 1.

ROYAL DENTAL HOSPITAL OF LONDON. — The dinner of the past and present students of the hospital will be held at the Trocadero (Empire Rooms), Piccadilly-circus, W., on Saturday, Nov. 22nd, at 6.30 for 7 P.M. Mr. W. Warwick James will preside.

CHILD-STUDY SOCIETY, LONDON.—A lecture on Women Police Work among Children will be delivered by Commandant Mary Allen under the auspices of this society at the Royal Sanitary Institute, 90, Buckingham Palace-road, S.W. 1, on Nov. 13th, at 6 P.M. Dr. Letitia Fairfield will be in the chair.

ROYAL SANITARY INSTITUTE.—A sessional meeting of the Institute will be held at 90, Buckingham Palace-road, London, S.W. 1, on Tuesday, Nov. 18th, at 6 P.M., when a discussion will take place on the Economic Value of the Healthy Infant and the New Zealand Welfare Work to the State, illustrated by lantern slides, to be opened by Miss J. B. N. Paterson. The chair will be taken by Dr. Louis C. Parkes.

BELFAST UNIVERSITY SERVICES CLUB. — On Nov. 11th, at 11 A.M., a wreath, in memory of Queensmen who fell in the late war, will be placed at the base of the War Memorial in the University grounds. One will also be placed at the same time at the Cenotaph in Whitehall, London, S.W. The sixth annual Armistice dinner will take place Thompson's, Belfast, at 7.15 P.M. on Armistice Day.

HARVEIAN SOCIETY OF LONDON.—The next meeting of this society will be held on Thursday, Nov. 13th, at 8.30 P.M., at Paddington Town Hall, for a discussion on the Results of Sanatorium Treatment of Tuberculosis, to be opened by Dr. Noel Bardswell.

ROYAL STATISTICAL SOCIETY.—A meeting of this society will be held in the Hall of the Royal Society of Arts, John-street, Adelphi, W.C. 2, on Nov. 18th, at 5.15 P.M., when the President, Mr. G. Udny Yule, F.R.S., will deliver his inaugural address on the Growth of Population and the Factors which Control It.

MEDICO-PSYCHOLOGICAL ASSOCIATION.—The next quarterly meeting of the Medico-Psychological Association of Great Britain and Ireland will take place on Thursday, Nov. 20th, at 11, Chandos-street, Cavendish-square, W., under the presidency of Dr. M. J. Nolan, at 2.30 P.M., when a paper will be read by Dr. G. de M. Rudolf, entitled Malarial Treatment of General Paralysis : Some Psychological and Physical Observations.

REFRACTORIES INDUSTRIES (SILICOSIS) SCHEME.—Under the revised scheme to be issued in accordance with the recommendations of the Departmental Committee on Workmen's Compensation for Silicosis, a medical board is to be appointed to undertake the periodic and other medical examinations required under the scheme. This board will have its centre at Sheffield, and will consist of two whole-time medical officers, the senior of whom must have had not less than ten years' practice in the diagnosis of respiratory diseases with special experience of silicosis. Further particulars will be found in our advertisement columns.

ROYAL SOCIETY OF ARTS.—Among the lectures to be delivered during the coming winter session of this society, at John-street, Adelphi, London, the following are likely to have a particular interest for medical men. Problems of Food with Special Reference to India, by Lieut.-Colonel R. McCarrison, I.M.S., on Dec. 5th, at 4.30 P.M. ; The Trend of Modern Hygiene, by Dr. Andrew Balfour (date to be announced later) ; Cantor Lectures : a course of three lectures on Modern Colour Problems, by Louis C. Martin, D.Sc., on Nov. 24th, Dec. 1st and 8th, at 8 P.M. ; and a course of three lectures on Radiological Research—A History, by V. E. Pullen, Director of the Radiological Research Department, Woolwich, on Jan. 19th and 26th, and Feb. 2nd.

A SCHOLARSHIP IN HÆMATOLOGY.—A scholarship of £200 a year tenable for one year and renewable for a second year is being offered by the directors of Virol, Ltd., for the encouragement of British research in hæmatology. In awarding the scholarship regard will be held by the examiners to the following points : (*a*) Original work published or intended for publication by the candidate ; or (*b*) evidence of ability and opportunity to pursue original research in hæmatology ; (*c*) the previous record of the candidate before and after graduation. Selected candidates may be examined orally and practically on their knowledge of hæmatology. The examiners are : Sir William Willcox, Dr. Alfred Piney, and Dr. A. Knyvett Gordon, to the last-named of whom applications should be sent at 10, Bedford-square, London, W.C. 1, before Dec. 1st. Further particulars will be found in our advertisement columns.

Medical Diary.

Information to be included in this column should reach us in proper form on Tuesday, and cannot appear if it reaches us later than the first post on Wednesday morning.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

MEETINGS OF SECTIONS.

Monday, Nov. 10th.

WAR: at 5 P.M.
Paper:
Surg.-Commander T. B. Shaw, R.N.: Remarks on the Incidence, Ætiology, and Prevention of Rheumatic Fever in the Royal Navy.

Tuesday, Nov. 11th.

THERAPEUTICS AND PHARMACOLOGY: at 4.30 P.M.
Papers:
Dr. R. D. Lawrence: Cases of Exophthalmic Goitre treated with Insulin.
Dr. G. A. Harrison: The Antagonistic Effect of Insulin and Thyroideum on the Body-weight of Rabbits.

PSYCHIATRY: at 8.30 P.M.
Presidential Address by Dr. C. S. Myers.

Wednesday, Nov. 12th.

SURGERY: SUBSECTION OF PROCTOLOGY: at 5.30 P.M.
Paper:
Mr. Lionel E. C. Norbury: Certain Atonic and Atrophic Conditions of the Cæcum and their Treatment.
Cases and Specimens:
Mr. Hamilton Drummond: (1) Specimen of Sacculitis of Pelvic Colon which caused Death from Portal Pyæmia. (2) Sacculi of Jejunum removed from Patient with Sacculitis of Pelvic Colon. (3) Case of Traumatic Rupture of Rectum into Peritoneal Cavity.
Cases and specimens will also be shown by Mr. Lockhart-Mummery, Mr. Græme Anderson, and others.

Thursday, Nov. 13th.

TROPICAL DISEASES AND PARASITOLOGY: at 5.30 P.M.
Papers:
Dr. Aldo Castellani: Observations on some little-known Diseases of Central America (with illustrations).
Dr. H. B. Day (late Professor of Clinical Medicine, Royal School of Medicine, Cairo): The Relation of Nephritis in Egypt to Intestinal Infection (with illustrations).
Specimens, &c.:
Dr. W. Broughton-Alcock: Appendicitis caused by Oxyuris Vermicularis.
Dr. J. P. Cullen: Two Photographs illustrating Muscular Dystrophy in a Native of the Northern Shan States (Upper Burmah).

NEUROLOGY: at 8.30 P.M.
Paper:
Dr. J. P. Martin: The Syphilitic Types of Progressive Muscular Atrophy.

Friday, Nov. 14th.

CLINICAL: at 5.30 P.M. (Cases at 5 P.M.)
Cases will be shown.

OPHTHALMOLOGY: at 8.30 P.M. (Cases at 8 P.M.)
Cases:
Dr. Rosa Ford: Congenital Ankyloblepharon (two cases).
Mr. A. H. Levy: Acute Macular Disease (two cases).
Papers:
Mr. Ransom Pickard: The Relation between Cavernous Atrophy and Glaucoma.
Dr. Freeland Fergus: Miner's Nystagmus: Its Diagnosis and Origin.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.
MONDAY, Nov. 10th.—8.30 P.M.: Discussion on Encephalitis Lethargica, to be introduced by Dr. E. Farquhar Buzzard, followed by Prof. A. J. Hall, Prof. J. McIntosh, Dr. A. Salusbury MacNalty, and others.

BIOCHEMICAL SOCIETY. (Physiological Department, St. Bartholomew's Hospital.)
MONDAY, Nov. 10th.—5 P.M., *Communications*:—Dr. G. Thomas: Micro-estimation of Urea in 0·2 c.cm. of Blood. Dr. E. Holmes: Excretion of Salicyluric Acid after Ingestion of Sodium Salicylate by the Human Subject. Dr. R. E. Chapman: Carbohydrate Enzymes of Starch-free Monocotyledons. Dr. E. M. Hume and H. Henderson Smith: Effect of Ultra-violet Irradiation of Environment on Growth and Calcification of Rats fed on Vitamin A-deficient Diet. Dr. G. A. Harrison: Effect of Insulin on Cholesterolæmia. Dr. R. L. Mackenzie Wallis: Observations on Glucose and Lævulose Tolerance Tests.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn-fields, W.C.
WEDNESDAY, Nov. 12th.—5 P.M., Sir Arthur Keith: Sir Richard Owen as Conservator (Thomas Vicary Lecture).

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, 1, Wimpole-street, London, W.
MONDAY, Nov. 10th, to SATURDAY, Nov. 15th.—DISEASES OF CHILDREN (COMBINED COURSE) at the Paddington Green Hospital, Victoria Hospital, and Children's Clinic. Special Intensive Course. Third week.—ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, Leicester-square, W.C. Daily demonstrations, pathological demonstrations, and lectures. Second week.—ST. PETER'S HOSPITAL FOR STONE, &C., Henrietta-street, W.C. Daily clinical work and special lectures on Urology. Fourth week.—ST. MARK'S HOSPITAL FOR DISEASES OF THE RECTUM, City-road, E.C. Special Course in Proctology, including lectures, demonstration, and operations. First week.

WEST LONDON POST-GRADUATE COLLEGE, West London Hospital, Hammersmith, W.
MONDAY, Nov. 10th.—12 noon, Mr. Simmonds: Applied Anatomy. 2 P.M., Mr. Addison: Surgical Wards. 2 P.M., Dr. Saunders: Medical Wards.
TUESDAY.—10 A.M., Medical Registrar: Clinical Methods. 12 noon, Dr. Burrell: Chest Cases. 2 P.M., Mr. Sinclair: Surgical Out-patients.
WEDNESDAY.—12.15 P.M., Dr. Burnford: Medical Pathology. 2 P.M., Dr. Owen: Medical Out-patients. 4.30 P.M., Dr. Trevor Davies: Gynæcological Demonstration.
THURSDAY.—11 A.M., Mr. Simson: Gynæcological Ward. 12 noon, Dr. Scott Pinchin: Diseases of the Heart. 2 P.M., Mr. MacDonald: Genito-Urinary Dept.
FRIDAY.—11 A.M., Mr. McDougal: Electrical Dept. 12 noon, Surgical Registrar: Surgical Pathology. 2 P.M., Mr. Banks-Davis: Throat, Nose, and Ear Dept.
SATURDAY.—9.30 A.M., Dr. Burnford: Bacterial Therapy. 10 A.M., Dr. Saunders: Medical Diseases of Children. 10 A.M., Mr. Banks-Davis: Operations on Throat, Nose, and Ear.
Daily, 10 A.M. to 6 P.M., Saturdays, 10 A.M. to 1 P.M., In-patients, Out-patients, Operations, Special Departments.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.
TUESDAY, Nov. 11th.—4.30 P.M., Dr. F. G. Crookshank: The Psychology of Common Neuroses.
FRIDAY.—4.30 P.M., Mr. E. Gillespie: *Bacillus Coli* Infection of the Urinary Tract.
Daily: Medical and Surgical Clinics, Clinics in the various Special Departments, Surgical Operations, &c.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.
THURSDAY, Nov. 13th.—4 P.M., Dr. Theodore Thompson: Acute Infections of the Nervous System in Children.

ST. JOHN'S HOSPITAL, 49, Leicester-square, W.C.
TUESDAY, Nov. 11th.—5 P.M., Dr. Knowsley Sibley: Eruptions due to Physical Causes.
THURSDAY.—5 P.M., Dr. H. MacCormac: Diseases due to Animal Parasites.

UNIVERSITY OF LIVERPOOL POST-GRADUATE LECTURES. (At 3.30 P.M.)
MONDAY, Nov. 10th.—(At the Children's Hospital.) Dr. Johnson: Tubercular Meningitis.
TUESDAY.—(At the Southern Hospital.) Dr. Johnson: Neuritis.
WEDNESDAY.—(At the Northern Hospital.) Mr. McMurray: Deformities of the Feet.
FRIDAY.—(At the Royal Infirmary.) Dr. Wallace Jones: Heart Cases.

UNIVERSITY OF SHEFFIELD POST-GRADUATE LECTURES. (At 3.30 P.M.)
TUESDAY, Nov. 11th.—(At the Jessop Hospital.) Mr. King: The Treatment of Dysmenorrhœa.
FRIDAY.—(At the Royal Hospital.) Dr. Naish: Points in the Diagnosis and Prognosis of Cretinism.

MANCHESTER ROYAL INFIRMARY POST-GRADUATE LECTURES.
TUESDAY, Nov. 11th.—4.15 P.M., Dr. E. M. Brockbank: Heart and Aorta Strain.
FRIDAY.—4.15 P.M., Prof. J. S. B. Stopford: The Motor Pathway.

BRISTOL UNIVERSITY POST-GRADUATE DEMONSTRATIONS.
WEDNESDAY, Nov. 12th.—3.15 P.M., at the Town Club, Swindon, Dr. A. J. Wright: Tonsils and Adenoids and Ear Discharges.

CHADWICK PUBLIC LECTURES.
MONDAY, Nov. 10th.—8 P.M. (in the Barnes Hall of the Royal Society of Medicine, 1, Wimpole-street, W.), Mr. Mark Hovell: The True Significance of the Rat Menace and how it may be Minimised.

ROYAL INSTITUTE OF PUBLIC HEALTH, Russell-square, W.C.
(Course of Lectures on the Health of the Commonwealth.)
WEDNESDAY, Nov. 12th.—4 P.M., Colonel Sir Leonard Rogers; Leprosy as an Imperial Problem.

THE PEOPLE'S LEAGUE OF HEALTH. Course of Lectures on the Mind and What We Ought to Know About It.
(At the Medical Society of London, 11, Chandos-street, W.)
MONDAY, Nov. 10th.—6 P.M., Sir Maurice Craig: Habit and Adaptation.

Appointments.

HOGAN, J. E., L.D.S. Irel., has been appointed Lecturer in Dental Surgery and Pathology in the School of Physic, Dublin University.

HOWELL, B. WHITCHURCH, F.R.C.S. Eng., Surgeon to Brookfield Orthopædic Hospital.

ROBERTS, W. M., M.B., Ch.B. Manch., Assistant Lecturer in Chemical Pathology, University of Manchester.

Certifying Surgeons under the Factory and Workshop Acts: ROBERTSON, W., Westerham (Kent); WINDEMER, D. A., M.R.C.S., L.R.C.P. Lond., Mevagissey (Cornwall).

Vacancies.

For further information refer to the advertisement columns.

Aberdeen Royal Mental Hospital.—Third Asst. P. £250.
Belfast, Forster Green Hospital for Consumption, &c., Fortbeda.—Med. Sup. £600.
Birmingham, Queen's Hospital.—P. to Out-patients.
Bolton County Borough.—Asst. M.O.H. and Sch. M.O. £600.
Bristol General Hospital.—Hon. Reg. to Throat and Nose Dept.
Cambridge, Addenbrooke's Hospital.—H.S. at rate of £130.
Cape Town University.—Wernher Beit Chair of Pathology.
Chailey, Sussex, Heritage Craft Schools.—H.S. for Orthopædic Surg. Dept. £200.
Chester Royal Infirmary.—Hon. Asst. Anæsthetists.
Edinburgh Royal Mental Hospital.—Res. Asst. P. £350.
Elizabeth Garrett Anderson Hospital, Euston-road, N.W.—H.P. Two H.S.'s and Obstet. Asst. at rate of £50 each.
Evelina Hospital for Children, Southwark, S.E.—H.S. at rate of £120.
Kensington, Fulham and Chelsea General Hospital, Richmond-road, Earl's Court, S.W.—Sen. and Jun. Res. M.O.'s for six months at rate of £100 and £75 respectively.
Manchester, St. Mary's Hospitals.—Three H.S.'s for seven months at rate of £50.
Metropolitan Asylums Board Mental Hospitals Service.—Two Jun. Asst. M.O.'s. Each £500.
Middlesbrough County Borough.—Asst. M.O..H £450.
Nottinghamshire County.—M.O.H. £1200.
Rousay and Egilshay Parish, Orkney.—R.M.O. £400.
Royal Naval Medical Service.—Surg. Lieuts. 25*s.* per day.
Ruthin Castle, Duff House, North Wales.—Asst. P. £700.
St. Peter's Hospital for Stone, &c., Henrietta-street, Covent Garden, W.C.—Third Anæsthetist. £25.
Salford Royal Hospital.—Res. Surg. O. £200.
Sheffield, Workmen's Compensation (Silicosis Acts).—Two M.O.'s. Sen. £900. Jun. £700.
Virol Scholarship in Hæmatology. £200.
West London Hospital, Hammersmith-road, W.—Surg. for Dis. of Women. Dermatologist. Also Hon. Medical Radiologist.
Wolverhampton and Midland Counties Eye Infirmary.—H.S. £200.
York County Hospital.—H.P. £150.

The Chief Inspector of Factories, Home Office, London, S.W. announces a vacant appointment at Cinderford, Gloucester.

Births, Marriages, and Deaths.

BIRTHS.

HORTON.—On Oct. 28th, to Dr. and Mrs. R. L. Horton, of "Morven," Westerhall-road, Weymouth—a daughter.

PARGETER.—On Oct. 27th, at Stamford Lodge, Sevenoaks, the wife of Henry Arthur Aidan Pargeter, M.A., M.B. Camb., of Dunstable, of a daughter.

PRATT.—On Oct. 27th, at the Haylands, Chigwell, Essex, to the wife of Dr. John Henry Pratt, of a son.

SOUTAR.—On Oct. 29th, at "Ardlea," Douglas, Isle of Man, the wife of Alan K. Soutar, M.R.C.S., D.P.H., of a daughter.

MARRIAGES.

LANE—DA COSTA.—On Oct. 28th, at St. Mark's North Audley-street, Gordon Lane, M.D., of Harley-street, W., to Mabel da Costa, of Green-street, W.

DEATHS.

GRAY.—On Nov. 3rd, after pneumonia, at North Holt, Hythe, Kent, Colonel William Lewis Gray, C.M.G., A.M.S. (retired), aged 60.

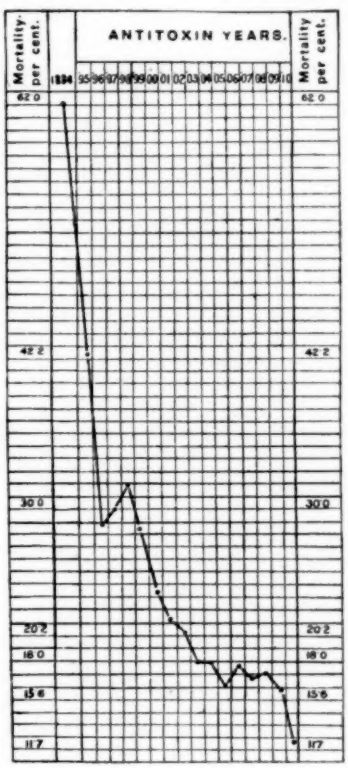
N.B.—A fee of 7s. 6d. is charged for the insertion of Notices of Births, Marriages, and Deaths.

NOBEL PRIZE IN MEDICINE.—This prize for 1924 has been awarded to Prof. William Einthoven, Professor of Physiology in the University of Leyden.

Notes, Comments, and Abstracts.

DIPHTHERIA ANTITOXIN AND LARYNGEAL DIPHTHERIA.

IN 1908, under the presidency of Lord Cromer, there was founded the Research Defence Society, whose object is to make generally known the value and the necessity of experiments on animals; the restrictions imposed on them by the Act of 1876; and the great saving of human and animal lives already obtained by means of such experiments. Every quarter this Society publishes a little journal entitled *The Fight against Disease* (Macmillan, 6*d.*). It contains notes on current experimental work, comments on questions arising in connexion with the administration of the Acts safeguarding vivisection, and records of advances in medicine achieved by animal experiments. The current number includes also a series of three "old stories retold," in which the fascinating tales of the discovery of the lacteals, of Sir Charles Bell's experiments on the nervous system, and of Claude Bernard's early work on the vasomotor system are recalled. Those who are familiar with this journal will recognise the chart, here reproduced, which appears on the back cover of every issue. It records the arresting decrease of the mortality from laryngeal diphtheria following on the introduction in November, 1894, of diphtheria antitoxin into the routine treatment of patients in the hospitals of the Metropolitan Asylums Board.



The chart, which refers only to cases of laryngeal diphtheria and does not include any slight or trivial cases, shows that the average mortality among cases of laryngeal diphtheria came down from 62 per cent. to 11·7 per cent. in sixteen years. The average mortality among tracheotomy cases came down from 70 per cent. to 20 per cent. in the same period. Now although the extensive application of the bacteriological test for diphtheria, coming as it did shortly before the use of antitoxin, no doubt resulted in a somewhat larger number of mild faucial and nasal cases of diphtheria being recognised and sent into hospital, the same explanation does not hold good for the laryngeal cases. Laryngeal obstruction is now just as much an immediate menace to life, and the call for operative relief equally insistent, as it was before the discovery of antitoxin. The only difference has been in respect of treatment. All cases of laryngeal obstruction have been treated with full doses of antitoxin immediately on coming into hospital. The effect of this has been that a certain number, chiefly those in the earlier stage of the disease, or those in which the obstruction has not progressed to the same degree, have not required tracheotomy at all, the obstruction having been relieved as the result of the early administration of serum. This fact, although without influence on the mortality of the wider group of laryngeal attacks, must have the effect of prejudicing adversely the mortality of the tracheotomy cases owing to the exclusion from the series of a certain proportion of the milder and less urgent cases. Had this not been the case, the lowering of mortality in the tracheotomy group, as shown by the statistics, would be even greater.

THE STORY OF A DUBLIN HOSPITAL.

AT the beginning of the eighteenth century there was not a single hospital in Dublin for the reception of sick civilians, although there was some scanty provision for sick soldiers. In 1699 "certain of the Commons" petitioned the Dublin Corporation a piece of ground, according to an annexed description, might be appropriated for the building of a hospital. The corporation granted the petition, but nothing further seems to have been done, and in addition, though the promoters approached the College of Physicians for a medical staff, again nothing was done, even though the President and Fellows on St. Luke's day, 1699, resolved "that att next meeting of ye Colledge of Physicians ye attending of a Hospital to be founded by ye Citty of Dublin for ye sick, be considered." So matters went on until 1718, when six Dublin surgeons opened a house in Cook-street at their own expense for the treatment of patients needing surgical aid. This hospital flourished from the start, and eventually became the present Jervis-street Hospital. In 1720 was founded Dr. Steevens' Hospital, and the history of this institution forms the subject of an unusually interesting book by Dr. T. P. C. Kirkpatrick.[1]

Richard Steevens was the son of John Steevens, who was probably curate in charge of Cherril, a donative of Calne in Wilts. John Steevens resigned his charge and fled to Ireland, on account, it is said, of differences with Cromwell concerning his late Majesty Charles I. This occurred about 1654, and in 1664 we find him rector of St. Mary's, Athlone. He had two children, twins, Richard and Grizel, and Richard, born circa 1653, was educated at the Latin School of Athlone, entered Trinity College, Dublin, in 1670, graduated B.A. in 1675, and commenced master in 1678. He is said to have taken deacon's orders, intending to follow his father's footsteps, but after his father's death in 1682 he changed his mind and began to study medicine, commencing doctor in 1687. Despite the disturbed times Steevens prospered in his profession, and acquired estates to the amount of some 3000 acres. He died in 1710, bequeathing most of his property to trustees to be used after the death of his sister Grizel: "To build or cause to be built or otherwise provide one proper place within the City of Dublin for an hospital for maintaining and curing from time to time such sick and wounded persons whose distempers and wounds are curable." Grizel Steevens, however, who, as was the custom of the time, bore the courtesy title of Madame Steevens, was not disposed to wait until her death for the fulfilment of the charitable desires of her brother. After a short struggle with the Court of Chancery and a fruitless application to the Government for help in 1716, with the consent of the trustees, she decided to give such a sum of money from her private income as would suffice for the building to be started and at the same time promised further annual gifts. Progress was slow, and the building was not opened for the reception of patients until March, 1732–33. Many of the bills for the furnishing of the house have been preserved and form interesting reading to-day. For instance, 40 bedsteads of deal cost 25*s.* each and 50 pewter chamber-pots cost £5 4*s.*, while two dozen "Ocamy spoons" cost 10*s.* These bills are dated 1729. By 1737 prices had risen, for a bill of that date shows that 11 pewter chamber-pots cost £1 7*s.* 6*d.*, but, on the other hand, "ten alkaney spoons" only cost 5*s.* The expressions "Ocamy" and "alkaney" are both obviously corruptions of "alchemy," a term which was applied to a particular kind of fine brass or bronze. Thus a marginal note in the Geneva New Testament of 1577 to the passage from Revelation, "his feet like fine brass" gives "*or* alkumyne." Good Madame Steevens died on March 18th, 1746–47, having lived in the hospital since a little before it was opened for patients. She was a masterful lady, and in 1735 ordered the dismissal of Owen Lewis, the resident surgeon, for what offence is not known, but this is the only time that she interfered in the internal affairs of the hospital. At her death the whole of her property, save for a few trifling legacies, passed by her will to the governors of the hospital. One of Steevens' trustees and an untiring worker for the hospital, which, however, he did not live to see opened, was Thomas Proby, appointed Chirurgeon-General in Ireland in 1699. He gained great renown in Dublin for having removed a bodkin from the bladder of a girl named Dorcas Blake, who said that she had swallowed it. A report of the case was submitted to the Royal Society by Dr. Thomas Molyneux, on referring to which we find that she is said to have swallowed the bodkin, which was made of ivory, on Jan. 5th, 1694. By next evening she felt a pricking pain near her right groin, and on Jan. 7th a midwife who "searched" her felt the end of the bodkin but thought "it was in a gut." On Jan. 8th Proby was called in and felt the bodkin per vaginam. Some days later he tried to extract it through the urethra, but could not. Nine weeks after the "swallowing" he extracted it by a suprapubic cystotomy, and the report states "there was but half the *Bodkin* in the *Bladder* . . . the other half was out of the *Bladder* in the *Pelvis* the point resting upon the *Ischium*." As Proby felt the bodkin in the bladder three days after the alleged swallowing, and despite Dorcas Blake's sworn oath before the Lord Mayor on June 10th, 1695, that she did swallow it, there seems a reasonable suspicion that she was romancing.

So the record of the hospital continues with interesting biographical details about the staff, some of whose names are household words, such as Colles, Croker King, about whom were written the lines so eminently practical, if not poetical:—

> "The fractured Skull to Samuel Croker King,
> The broken Limb, Wounds and Luxations bring;
> There's no Disaster but he can set right,
> With Splints, Trepan and Bandage not too tight."

Among the physicians and obstetricians Sir H. Marsh, H. J. C. Tweedy, E. H. Tweedy, and Henry Jellett, both the two latter being Masters of the Rotunda, find a place. Dr. Kirkpatrick has provided his readers with an excellent list of the officials connected with the hospital from its inception, illustrated by short biographical notes. There is an admirable index, and finally he slays the extraordinary myth which somehow gained currency that Madame Steevens was the original of the Pig-Faced Lady! Altogether the book is a model of what a hospital history should be.

[1] The History of Dr. Steevens' Hospital, Dublin, 1720–1920. By T. Percy C. Kirkpatrick, M.D., M.R.I.A., Fellow and Registrar of the Royal College of Physicians of Ireland. Dublin: At the University Press. 1924. Pp. 397.

PRESENTATION TO A MEDICAL MAN.

Dr. F. M. Blumer was presented on Oct. 17th by members of the general committee of the Staffordshire General Infirmary with an illuminated address to mark his 38 years' valuable services to the institution. The address, which was embossed on vellum and bound in morocco, stated among other things that "Your membership of the honorary staff of the infirmary is a record of singleness of purpose, of work well performed," and expressed the appreciation of the committee for Dr. Blumer's decision, at the committee's request, "to continue for a further period as an active member of the medical staff." The presentation was made by Major J. C. G. McFerran, chairman of the board of management, and there was a large gathering of Dr. Blumer's friends and colleagues.

MIDDLESEX HOSPITAL.

THE War Memorial of the borough of Marylebone took the form of the endowment of six beds in the Middlesex Hospital. A sum of money being left over this has been augmented, and on Oct. 27th another bed in the Broderip Ward was opened by Prince Arthur of Connaught, chairman of the hospital, who was accompanied by the Princess. His Royal Highness also unveiled a tablet recording the endowment.

DAIRY-WORKERS AND TUBERCULOSIS.

THE Minister of Health has issued a draft of new Regulations (Public Health (Prevention of Tuberculosis) Regulations 1924) to be made for the purpose of preventing infection from the employment in and about farms, dairies, and milkshops of persons suffering from pulmonary tuberculosis. Under these regulations (*a*) a medical officer of health may report to a local authority that a person employed in connexion with the handling of milk is suffering from pulmonary tuberculosis, and (*b*) on receiving any such report the local authority may by notice in writing signed by the clerk or the medical officer of health require such person to discontinue his employment or occupation on or before the date specified in the notice, such date being not less than seven days after the service of the notice. An appeal against the requirement of the local authority may be made to a court of summary jurisdiction within 14 days from the service of the notice.

ROYAL NORTHERN HOSPITAL, LONDON.

ON Oct. 30th, Princess Louise, Duchess of Argyll, President of the Ladies' Association, opened the new nurses' home at the Royal Northern Hospital, Holloway-road, London, N. Lord Northampton, who, with other friends and officials, received the Princess, referred to the fact that the King was Patron and the Prince of Wales President of the hospital, and said that the new home had been made possible through the help received from King Edward's Hospital Fund for London, the British Red Cross Society, the Ladies' Association of the Royal Northern Hospital, and many generous donors. The cost of the new building, including the site, was £33,000, of which £5900 was still needed.

ANY friend of the late Prof. S. G. Shattock who would care for a copy of the portrait issued with the last number of the *Journal of Pathology and Bacteriology* can have one on application to the Editor, 17, Loom-lane, Radlett.